

# PORT OF LIVERPOOL.



## ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

TO THE

## PORT SANITARY AUTHORITY

FOR THE YEAR

# 1925

BY

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In accordance with the duty imposed by the Local Government Board (now the Ministry of Health) in the General Order, dated March 23rd, 1891, the following report of the operations of the Liverpool Port Sanitary Authority for the year 1925 is herewith submitted.

The report covers the work of the Authority during the year, and includes references to the following:—

(a) Measures adopted under the Cholera, Plague and Yellow Fever, and Allied Orders of the Local Government Board, and under the Port Sanitary Authorities (Infectious Diseases) Regulations, 1920.

(b) The measures taken to reduce the number of rats on dock quays and on ships and to ascertain the existence of plague amongst any such rats.

(c) Action taken in regard to the sanitation of vessels.

(d) The inspection of imported foods under the Orders of the Local Government Board.

(e) The Medical Inspection of Aliens under the Aliens Order, 1920.



The limits of jurisdiction of the Port Sanitary Authority are those of the Customs Port of Liverpool as defined in the Treasury Warrant of November 3rd, 1896, which are as follows:—

From the Red Stones in Hoylake on the Point of Wirral and continued up the river Mersey on the Cheshire shore to the Western side of the entrance to the Manchester Ship Canal at Eastham. Thence in an easterly direction across the said entrance and along the Cheshire shore of the river to the Ince Ferry, the western termination on that shore of the Port of Manchester. Thence crossing the said river Mersey in a supposed straight line to Dungeon Point, being the western termination on the Lancashire shore of the said Port of Manchester, and continued along the coast of the County of Lancashire to the southern boundary of the Port of Preston, *i.e.*, an imaginary line drawn in a true north-north-west direction from the inner north-west sea-mark on the beach at Formby Point. And the said Port shall include all islands, rivers, bays, channels, roads, bars, straits, harbours, havens, streams, and creeks (except the said Manchester Ship Canal) within the said limits contained, and shall extend sea-ward to a distance of three miles from low water-mark along the coast within the aforesaid limits.

The contributing Riparian Authorities are the County Boroughs of Birkenhead, Bootle and Wallasey, and the Urban District Council of Bebington and Bromborough.

TABLE 1.  
AMOUNT OF SHIPPING ENTERING THE PORT SANITARY DISTRICT DURING THE YEAR 1925.

Class of Vessels.	Number.	Tonnage.	Number Inspected.		Number reported to be Defective.	Number of Orders Issued.
			By the Medical Officer.	By the Sanitary Inspector.		
FOREIGN—	(1)	(2)	(3)	(4)	(5)	(6)
Steamers ... ..	7,013	12,991,087	795	4,298	872	—
Motor ... ..	172	435,776		—	—	—
Sailing ... ..	69	24,703		—	—	—
Fishing ... ..	—	—		—	—	—
TOTAL FOREIGN ... ..	7,254	13,451,566	795	4,298	872	—
COASTWISE—						
Steamers ... ..	7,140	2,118,227	19	1,508	122	—
Motor ... ..	1,450	113,264	—	—	—	—
Sailing ... ..	203	26,577	—	30	1	—
Fishing ... ..	—	—	—	—	—	—
TOTAL COASTWISE ... ..	8,793	2,258,068	19	1,538	123	—
TOTAL FOREIGN AND COASTWISE ... ..	16,047	15,709,634	814	5,836	995	—

(Includes mechanically-propelled vessels other than steamers.)  
 Figures in columns 1 and 2 supplied by H.M. Collector of Customs for this Port.

### Infectious Diseases.

The methods adopted in Liverpool to prevent the importation of infectious diseases from abroad are briefly as follows :—

1. The boarding by the Assistant Port Medical Officers of certain vessels on arrival in the river and before docking, viz. :—

(a) Vessels from certain parts of the world where dangerous infectious disease is known to exist;

(a) Vessels in which infectious disease exists at the time of arrival or has occurred during the voyage.

2. The visiting of *all vessels* in dock by sanitary inspectors as soon as possible after berthing.

3. The trapping of rats in ships and on quays, and their examination for signs of plague infection.

Such a scheme has proved effective for many years. The list of notifiable diseases is, however, being added to continually, and includes a number of conditions which are not always easily diagnosed by a doctor, and which the master of a ship cannot be expected even to recognise as possibly infectious. If, therefore, it is desired that Port Sanitary Authorities should be informed of all notifiable infectious diseases arriving in ships some alteration of present methods will be necessary. If every ship is visited on arrival by a medical officer he can see every case of sickness on board, whether it be infectious or not. But in Liverpool local conditions make such a system impossible without the incurring of expenditure out of all proportion to the advantages likely to be obtained. It will, therefore, be necessary in any case to continue to select ships for examination. Until recent years it was impossible to learn whether there was any sickness on board a vessel without actually visiting the ship. Consequently, the principle of selection has been to board ships arriving from those ports from whence dangerous infectious disease was most likely to be imported. In the majority of cases all on board have been found to be well, and no infectious disease is reported to have occurred during the voyage. In other cases ships with sickness on board not recognised by the master as infectious, have proceeded straight into dock without medical inspection.



Now that practically all ships are fitted with wireless telegraphy, it is possible to obtain information regarding the health of passengers and crew before the vessel actually arrives in the river, and in the near future, therefore, it may be found more satisfactory to both the Port Sanitary Authority and the shipping companies to introduce an alternative system of selecting vessels to be boarded by the Medical Officer, viz., to require the masters of all ships arriving to report by wireless whether they have—

- (a) had on board any cases or suspected cases of infectious disease ;
- (b) have on board at the time of arrival any case of sickness of any kind whatever,

and to require all ships reporting infectious disease during the voyage, or any sickness whatever on arrival to be visited by the Port Medical Officer before docking.

The Medical Officer on boarding, would inquire into the circumstances connected with any infectious disease which had occurred during the voyage, and would ascertain whether there still existed any danger of the spread of the infection. In the case of persons ill on arrival, if they were infectious the Port Medical Officer would take charge, if non-infectious, he would advise as to the disposal of the case, viz., whether to hospital ashore, or whether to be treated at home, or on board by a private medical practitioner.

Such a scheme would provide the Port Sanitary Authority with information in regard to all cases of sickness brought into the Port, and it would no doubt appeal to the masters of ships as reasonable that the Port Sanitary Authority should desire to be satisfied that no danger existed from any infectious disease which had occurred during the voyage, and that they should wish to have a medical examination of any person who was ill on arrival in order to be satisfied as to whether the case was infectious or not. Masters would also be glad to be relieved of responsibility as to the disposal of cases of illness. When the system has been established it would in all probability be found possible to reduce very materially the list of infected ports, and, moreover, it might receive the favourable consideration of other authorities, and thus establish uniformity.

During the year 1925 there were 191 cases of notifiable infectious diseases actually landed in Liverpool, and 482 cases occurred in Liverpool-bound ships and were disposed of prior to arrival. In all instances the recognised measures for the prevention of the spread of infection were carried out.

**CHOLERA AND PLAGUE.**—No cases of either of these diseases occurred in Liverpool-bound vessels during the year.

**YELLOW FEVER.**—One case occurred amongst the crew of a Liverpool ship trading with West African Ports. The patient was landed at Lagos, where he died.

**SMALLPOX.**—No case of smallpox was landed in Liverpool from abroad during the year. The case referred to in Table 9 was that of a passenger outward bound to Canada, who arrived at Liverpool from Ryton-on-Tyne. When embarking on the s.s. "Montrose" he was discovered to have the eruption of smallpox on him. He was removed to the Port Sanitary Hospital, and contacts were vaccinated by the ship's surgeon. No extension of the infection occurred.

Fifteen cases of smallpox were landed abroad from Liverpool-bound vessels, the majority of these occurring amongst natives in ships trading with India.

**ENTERIC FEVER.**—Thirteen cases of typhoid fever and four of paratyphoid fever were landed in Liverpool from ships, while 15 cases of typhoid and 2 of paratyphoid occurred in Liverpool-bound ships, and were landed abroad or had recovered on arrival. Of these 34 cases 11 originated in South America, 6 in U.S.A., 4 in India, 3 in Australia, 2 in Canada, 2 in West Africa, 2 in Russia, 2 in Spain, 1 in Holland, and 1 in Egypt.

**MALARIA.**—Nineteen cases of malaria were landed in Liverpool and 297 cases occurred in Liverpool-bound ships. Of these cases 204 patients contracted the disease in West Africa, and 52 in India, the rest being infected in South America, Java and Mexico.

**PULMONARY TUBERCULOSIS.**—Sixty-four cases were landed in Liverpool and 25 were landed abroad from Liverpool-bound ships. These figures must not be taken as indicating the incidence of phthisis amongst sailors, as they include 52 cases amongst passengers.

**ANTHRAX.**—Five cases of anthrax occurred during the year.

Two of the patients were engaged in handling wool in warehouse; two worked amongst wool and hides, discharging from vessels in the docks, and one was engaged as a "lime jobber" in a tannery.



### Rats and Plague.

RATS AND PLAGUE.—Liverpool trades extensively with many foreign ports where plague is always present. All vessels arriving from such ports are boarded, the crews and passengers are examined and careful enquiry made as to any evidence of the existence of plague amongst the rats on board. But medical inspection alone is not sufficient, for rodent plague may exist on board without having given rise to any human cases and without any sick or dead rats having been seen. Consequently, after the ship berths it is necessary—

- (1) to catch samples of the rat population in all parts of the ship;
- (2) to examine the ship in all parts, and at various times during the discharge of cargo, for sick or dead rats.

All rats so obtained are examined for signs of plague by the City Bacteriologist. Both proceedings are necessary, for in the past each has resulted in the discovery of plague independently of the other.

Similarly along the dock quays and in the sheds and warehouses it is necessary to search and trap, for the success of plague-preventive measures depends on the detection of the infection at the earliest possible moment, followed by the adoption of energetic measures to destroy every infected rat. There is little risk of an extensive outbreak of human plague in this country, but rodent plague, once established, is most difficult to eradicate, and, in addition to causing possibly a few human cases, it leads to the imposition of restrictions on our ships in foreign ports where there is greater danger of a serious epidemic of human plague following the importation of infected rats. Active measures against rat-plague are therefore well worth the trouble and expense involved, not only on public health grounds, but in the interests of trade and commerce as well.

During 1925, the number of rats and mice obtained by the Authority's rat catchers from ships and quays was 13,596 (482 mice), of which 6,947 (225 mice), were bacteriologically examined. In no case was any suspicion of plague infection discovered. The Port was absolutely free from rodent plague throughout the year. But the possibility of the importation of plague is ever present, consequently we cannot afford to relax measures devised for its prompt detection and suppression.

RAT-REPRESSIVE MEASURES.—While the Port Sanitary Authority accept responsibility for all plague-preventive measures, it is the duty of ship-owners and other occupiers of premises on the dock estate to take steps to keep down the rat population, both on shore and in ships in the Port. During 1925 the number of rats caught and destroyed by shipping firms employing their own rat-catchers and by rat-catching companies was 41,361 in ships and 2,267 on shore. But the Port Sanitary Authority also are interested in the reduction of the numbers of rats on shore, because if at any time rodent plague were introduced it would spread very rapidly amongst a dense rat population. With this object in view the Authority have devoted constant attention to the question of rat-proofing on the docks, with excellent results. In this work the shore staffs of the shipping companies, and, indeed, the occupiers of all types of premises have given every assistance and now thoroughly appreciate the objects in view and the value of the measures they are asked to adopt.

Rat-proofing may be divided into two sections, viz., structural rat-proofing and administrative measures.

For the most part the buildings on the dock estate are as nearly structurally rat-proof as it is possible to make them. One small area in the oldest part of the docks and only used for barges and canal-boats is unsatisfactory in this respect, but nothing short of complete reconstruction could make it rat-proof. To this area the Port Sanitary Authority gives unremitting attention, and efforts are made to compensate for structural defects by special attention to administrative measures.

Refreshment rooms on the docks have in the past given a good deal of trouble, but these are now maintained in a satisfactory condition.

ADMINISTRATIVE MEASURES.—Even if buildings are structurally rat-proof rats will get in amongst cargo, through open doors or beneath sliding doors. It is therefore necessary to see that the rats which do gain access to the buildings are unable to make their homes therein. This depends entirely on the arrangements in the interior. Fortunately the sheds on the docks in Liverpool are transit sheds, inward cargo is removed to all parts of the country as soon as possible and replaced by goods for outward shipment. There is very little storage actually on the dock estate. Rats cannot, therefore, make their homes amongst the cargo in the sheds because they would be disturbed every day or two. But they



might live beneath wooden offices in the sheds, or in the bo'sun's stores, and in any accumulations of refuse in out-of-the-way corners. To prevent this wooden offices are raised 18in. clear of the ground and the space beneath kept clean, or are cemented or protected by sheet iron all round the bottom so that it is impossible for rats to burrow underneath. Working gear which is in regular use causes no trouble, but such gear as is only required occasionally is either stored on raised platforms or, where possible, hung from the walls. Accumulations of refuse are not permitted, and particular attention is devoted to keeping clean the corners of the sheds and any part which is likely to be overlooked. A senior inspector devotes most of his time to the question of rat-proofing for constant supervision is necessary, but the results obtained are excellent, and it is generally acknowledged that the number of rats on the docks has been reduced to a small fraction of what it used to be.

IN SHIPS.—In addition to catching rats for bacteriological examination and searching for sick or dead rats, the rat-catchers and rat-searchers of the Authority are required to report on the degree of rat-infestation of vessels in the docks. Each man is supplied with an electric torch, and by noting such evidence of rats as the quantity of excreta, and whether it is fresh or stale, runs and holes, gnawing of woodwork, damage to cargo, etc., they are able to judge the degree to which a vessel is rat infested. They report their findings daily in their notebooks, which are read over by the assistant port medical officer and the chief sanitary inspector. If the evidence points to the presence of a considerable number of rats on board, a senior inspector visits the ship, and if he confirms the previous observations the owners of the vessel are requested to fumigate the ship.

When an officer of the Port Sanitary Authority finds that rats are gaining access to store-rooms or to living quarters he gives advice as to how this may be prevented. Dr. Grubbs, chief quarantine officer of the U.S. America, has recently proposed that extensive measures of rat-proofing should be carried out in ships as an alternative to frequent fumigations. Undoubtedly the rat population of ships could be greatly reduced by cutting off the rats' food supplies, eliminating their nesting places as far as possible and restricting their free movement about the vessels. Further, the efficiency of fumigation when required would be increased, because there would be less chance of rats escaping to parts



not under fumigation or to which for some reason the fumigant does not penetrate in lethal concentration. The application of these principles of rat-proofing to existing ships will involve a considerable amount of expense, particularly in large passenger liners, and in the case of some of the older vessels it would be impossible to eliminate all the rat harbourage and runs. Newer ships afford less harbourage, but the possible rat runs from one compartment to another along pipes, etc., are at least as numerous as in the older ships.

In the future it should be possible to apply the principles of rat-proofing during the construction of vessels without much additional expense, if naval architects and shipbuilders will devote attention to the subject.

But the extent to which vessels become infested with rats does not depend only on their construction, other factors are equally important, e.g., the nature of the cargo carried, the conditions existing at the ports of call, and the duration of the voyage.

Consequently, in the application of rat-repressive measures, ships should not be considered collectively but individually. To take an extreme example, oil tankers should not be subjected to the same measures as regular grain carrying vessels just because both are ships.

It is possible with a staff of trained and reliable men to estimate the condition of the vessel in regard to rats, and on their evidence the measures to be adopted should be decided. Sometimes fumigation would be called for, sometimes some rat-proofing would meet the requirements. The routine fumigation of ships at intervals of six months has not been justified by the number of rats destroyed except in a few cases.

The rat-proofing of ships cannot fail to reduce the numbers of rats, but it will not avoid the necessity for fumigation in all cases. Further, even if a ship be made structurally rat-proof it is still necessary to attend constantly to the details of administrative rat-proofing by preventing any food, even scraps, being left where rats can get to it, by storing all gear, etc., so that rats cannot nest amongst it and by keeping clear all spaces under or on top of lockers, etc., where rats might make a home. It would seem that, at any rate for some time to come, both fumigation and rat-proofing will be required. But fumigation should not be imposed

compulsorily at regular short intervals. It should only be carried out either when there are signs that there is a considerable number of rats on board the vessel or when there is a suspicion that rodent plague may exist on board. Port Health Authorities which have power to demand fumigation should have a staff of reliable men who are trained to estimate the degree of rat-infestation of ships and when fumigation is carried out it should be obligatory to expose every rat-infested part of the ship to a lethal concentration of the fumigant for a sufficient period. Further, Port Health Authorities in examining ships as to their condition in regard to rats should be able to make recommendations for rat-proofing and should give the master or the shipowner to understand that if such measures of rat-proofing are carried out in all probability the vessel will be able to go for much longer periods without getting into such a condition as to require fumigation.

The routine fumigation of vessels on arrival from plague-infected ports has never been adopted in this country, though fumigation is carried out immediately any suspicion of the existence of rodent plague on board any ship is aroused. Experience has shown, that so far as this country is concerned, this policy is justified. Other countries have other views, which can only be judged in the light of knowledge as to local conditions. But this may be said with certainty, half-hearted fumigation as a plague-preventive measure, is worse than no fumigation at all, for it simply spreads over the ship what may have been only a localised infection, and in the past actual cases have occurred of infected rats being driven from the holds into the crew's quarters, resulting in the development of human cases of plague. Further, it may lead to a false sense of security in ports at which an infected ship so treated subsequently touches.

The present need is not so much for frequency as for thoroughness in fumigation, and in obtaining thoroughness and reducing frequency the rat-proofing of ships will be of great assistance.

#### RAT-GUARDS FOR SHIPS' HAWSERS.\*

In view of the world-wide distribution of plague the problem of how to prevent the passage of rats between ships and the shore is of great importance in every seaport. No absolutely efficient and at the same

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\*Reprinted from an article in the *Lancet* of March 28th, 1925 (p. 695), by Charles F. White, M.B., D.P.H., D.T.M., Assistant Medical Officer of Health, Port of Liverpool.



time practicable method has yet been devised. Most countries require rat-guards to be fixed on all mooring-ropes, and certainly rats do use ropes as easily as we use the highway. I have seen rats run down an ordinary 8-in. rope at an angle of 45 degrees with perfect confidence and safety. It is therefore necessary to guard ropes, but it is reasonable to suppose that rats will use the easiest means of travelling from ship to shore or shore to ship. Consequently it is futile to put rat-guards on the mooring-ropes of a ship with low free-board lying close against a quay, for naturally the rats will then go over the ship's side. This may be prevented by breasting the ship off four to six feet from the quay. But breasting off adds very considerably to the cost of loading and unloading cargo because of the longer lift necessary. Indeed, in the case of small ships it may mean a double lift. Such a tax on trade is not justified as a routine procedure. Where there is grave risk of the importation of plague infection, all efficient preventive measures are justified, because the interest of the individual ship must be subordinated to the interest of the public health and of other shipping. If plague preventive measures are to be applied, not only must the vessel be breasted off from the quay, great care being taken in placing the dummy barges so that rats cannot jump on to them from the bulwarks or through hawse pipe, &c., but also efficient guards must be placed on all mooring-ropes, even wires, and the gangways must be carefully watched or hoisted not only during the night, but at any time when conditions are quiet enough to tempt the rats abroad. Further, ropes hanging down to fenders or swinging loose may provide a means for rats to go to and from ships. The agility of the rat, particularly the black rat, must be seen to be believed. Lastly, undoubtedly rats go to and from ships in cargo, and when plague is suspected, either thorough fumigation must be carried out before the cargo is discharged, or every package that could conceivably harbour rats must be searched on the quay immediately it is landed.

Effective plague prevention is necessarily an elaborate and expensive proceeding, and cannot be applied as a routine to all ships. Some risk must be taken, but it should be reduced to the minimum that is practicable without laying an intolerable burden on trade. In attaining this minimum, rat-guards are undoubtedly valuable, but it is submitted that a general order that all ships should affix them to their ropes is unnecessary and may, in the case of small ships close to the quay, be



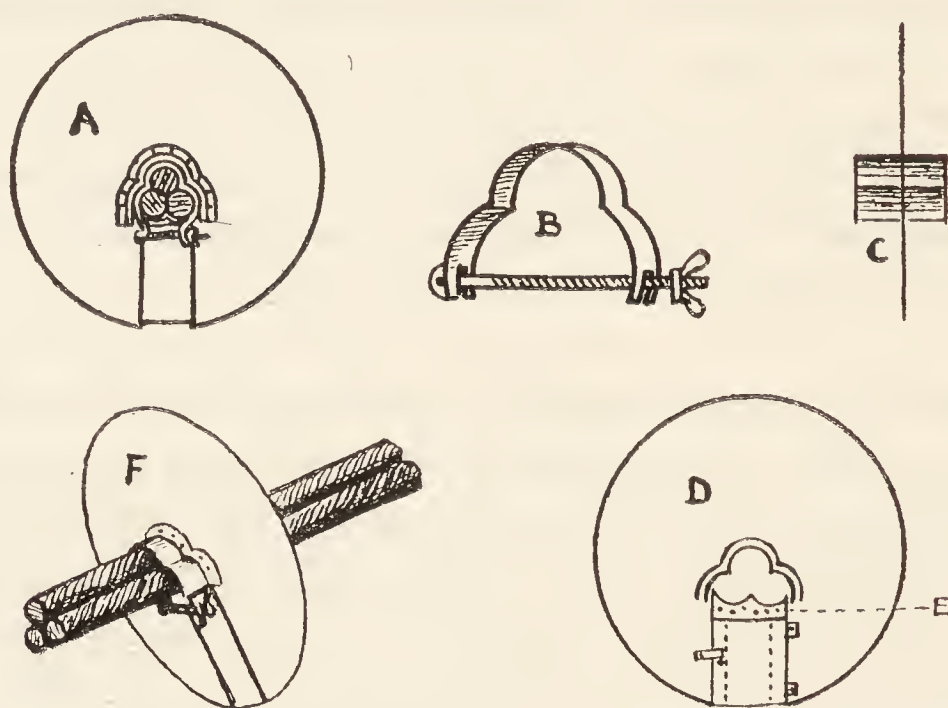
ridiculous. Rat-guards should be ordered at the discretion of the officers of the Port Sanitary Authority, but when they are ordered, an efficient type, properly applied and maintained in position, should be insisted on, because many ships' officers appear to think that any piece of tin applied to a rope will pass as a rat-guard.

After various experiments, I have no doubt that the plain sheet metal *rimless* disc 3 ft. in diameter, when properly fixed and retained at right angles to the rope, presents an almost insuperable obstacle to rats which they will not tackle at all unless hard pressed. I have seen them gain the edge of the disc when driven, but they have always fallen into the dock in attempting to reach the rope on the opposite side.

Hitherto the 3 ft. metal guard has been made in two half sections pivoted near one edge. In application the two halves are separated and the guard is dropped over the rope, the sections then being closed round the rope and held below by a clip. The central collar is then bound close to the rope. The division of the guard down the centre greatly weakens it, with the result that it will not withstand wind or any rough usage, the parts becoming bent in different directions and eventually separating altogether. They are often kept in use long after they are quite ineffective.

A modification of this type of rat-guard has been invented in Liverpool. The drawings will give a good idea of the essential points in construction. The guard consists of a disc of galvanised sheet iron  $\frac{1}{16}$  in. thick and 3 ft. in diameter. The edge is left raw—i.e., not wired or turned over. In the lower half is cut a door hinged and so fastened when shut that no foothold is afforded to rats. The door slit leads to the central hole through which the rope passes. Round the central hole is placed a strong collar projecting about 4 in. on each side, and riveted to the disc. In the collar is a strong steel spring clip which can be tightened by the winged nut on the bolt (Fig. B). In application the door is opened and the guard put over the rope so that the latter passes up into the central hole, where a little force is necessary to overcome the spring of the clip. The guard will now hold quite firmly, but the bolt and screw closing the opening of the clip gives additional security. The door is then closed and fastened, the upper edge having a piece of thick sheet rubber attached so as to close completely the central hole whatever the size of rope in use.

In the drawings a type of guard suitable for three ropes is shown, such being frequently necessary for large ships. Types are also made for two ropes, one rope or two or three wires, and any guard will fit ropes over a range of about 3 in. difference in diameter, so that any ship may easily be supplied with a set of guards suitable to her requirements.



The advantages of this guard are :—

(1) *Ease of Application*.—The guard is easily and rapidly applied to one, two, or three ropes and needs no binding in position.

(2) *Maintenance of Position*.—Under trying conditions of wind and alternate tightening and slacking of ropes the guard has maintained its position perpendicular to the rope for a week's test without any readjustment whatever.

(3) *Rigidity*.—Except for the door-opening, the guard is one continuous piece of sheet metal, and is therefore very much stronger than the older type. The riveting of the collar to the disc adds greatly to the stability of the guard, while the steel spring resists the bursting strain when two or three ropes alternately slacken and tighten with the movement of the ship.

The guard costs a few shillings more than the usual pattern, but this should be amply repaid in longer life and much greater efficiency. It is certainly the most satisfactory and practicable rat-guard yet produced.

TABLE 2.

PARTICULARS RELATING TO VESSELS "INFECTED" OR "SUSPECTED," OR FROM INFECTED PORTS.

NUMBER OF VESSELS.		METHODS OF RAT DESTRUCTION EMPLOYED.				Number of Rats Killed.	Certificates of Deratisation Issued.	Remarks.
Infected.	Suspected.	From Infected Ports.	Fumigation by Sulphur Dioxide.	Fumigation by Hydrocyanic Acid.	Trapping, Poisoning, etc.			
1.	2.	3.	4.	5.	6.	7.	8.	9.
Nil.	Nil.	* 541	14	Nil.	239	2,750	14	

\* (Includes 86 Manchester-bound Vessels.)

TABLE 3.

VESSELS (OTHER THAN THOSE DEALT WITH IN TABLE 2) SUBJECTED TO MEASURES OF RAT DESTRUCTION.

Number of Vessels Fumigated by SO <sub>2</sub> .	Number of Rats Killed.	Number of Vessels Fumigated by HCN.	Number of Rats Killed.	Number of Vessels on which Trapping, Poisoning, etc., were employed.	Number of Rats Killed.	Number of Fumigation Certificates Issued on Form "Port 10."	Number of Other Certificates Issued.	Remarks.
	2.	3.	4.	5.	6.	7.	8.	9.
1.								
98	* 4,273	7	269	320	3,796	102	17	

\* The above figures include 241 mice.



TABLE 4.

TABLE SHOWING THE NUMBER OF RATS AND MICE OBTAINED ON SHIPS AND QUAYS  
BY THE AUTHORITY'S RAT-CATCHERS.

Year.	NUMBER OBTAINED.			NUMBER					
				EXAMINED.			DESTROYED.		
	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.
1916	10,881	1,678	12,559	7,064	1,312	8,376	3,817	366	4,183
1917	9,174	1,551	10,725	6,379	1,457	7,836	2,795	94	2,889
1918	7,251	1,188	8,439	5,541	1,159	6,700	1,710	29	1,739
1919	8,971	1,336	10,307	6,023	1,287	7,310	2,948	49	2,997
1920	8,088	1,593	9,681	5,276	1,517	6,793	2,812	76	2,888
1921	8,867	2,405	11,272	5,031	2,195	7,226	3,836	210	4,046
1922	10,642	2,830	13,472	5,520	2,519	8,039	5,122	311	5,433
1923	12,097	1,625	13,722	5,629	1,460	7,089	6,466	167	6,633
1924	13,509	1,963	15,472	4,981	1,658	6,639	8,528	305	8,833
1925	*11,088	2,508	13,596	4,882	2,065	6,947	6,206	443	6,649
Total.....	100,568	18,677	119,245	56,326	16,629	72,955	44,240	2,050	46,290

\* 4,817 rats and 257 mice were obtained after fumigation and a further 225 mice are also included in these figures.

TABLE 5.

NUMBER AND SPECIES OF RATS CAUGHT, EXAMINED, OR DESTROYED, RESPECTIVELY, IN THE CITY  
AND PORT OF LIVERPOOL, DURING THE YEAR 1925.

1925.	Warehouses.		Sewers.		Other Places.		Total.		Ships.		Quays.		Other Sources.		Total.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	74	166	—	442	2	534	76	1,142	658	—	83	5	70	2	811	7
February ...	93	148	—	459	—	390	93	997	663	—	76	8	44	16	783	24
March ...	110	339	—	526	11	373	121	1,238	737	—	127	14	119	34	983	48
April ...	136	386	—	495	1	370	137	1,251	1,211	—	108	14	74	1	1,393	15
May ...	106	392	—	563	43	579	149	1,534	1,989	—	166	12	39	8	2,194	20
June ...	55	312	4	492	40	615	99	1,419	683	—	108	43	12	7	803	50
July ...	29	267	—	620	7	603	36	1,490	899	2	72	54	—	33	971	89
August ...	43	319	—	460	8	463	51	1,242	802	—	38	42	26	40	866	82
September ...	99	422	—	634	60	700	159	1,756	657	—	108	35	5	6	770	42
October ...	126	424	—	546	25	743	151	1,713	747	—	126	46	28	12	901	58
November ...	110	305	—	489	29	540	139	1,334	719	2	85	67	59	38	863	107
December ...	85	242	—	375	13	447	98	1,064	1,078	—	90	23	36	7	1,204	30
TOTAL ...	1,066	3,722	4	6,101	239	6,357	1,309	16,180	10,843	4	1,187	364	512	204	12,542	572

TABLE 5.—Continued.

1925.	Examined (City).		Destroyed (City)		Examined (Port).		Destroyed (Port).		Total Caught.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	City and Port.
									Black and Brown.
January ...	5	141	71	1,001	492	6	319	1	2,036
February ...	6	117	87	880	449	23	334	1	1,897
March ...	40	212	81	1,026	557	39	426	9	2,390
April ...	14	176	123	1,075	564	13	829	2	3,796
May ...	7	223	142	1,311	653	12	1,541	8	2,897
June ...	9	168	90	1,251	573	29	230	21	2,371
July ...	2	205	34	1,285	555	77	416	12	2,586
August ...	2	141	49	1,101	367	68	499	14	2,241
September ...	17	208	142	1,548	515	42	255	—	2,727
October ...	20	201	131	1,512	544	51	357	7	2,823
November ...	18	179	121	1,155	566	87	297	20	2,443
December ...	9	78	89	986	410	29	794	1	2,396
TOTAL	149	2,049	1,160	14,131	6,245	476	6,297	96	30,603

672 Rats caught in the Port Area and Bacteriologically examined proved not to be infected with plague,



TABLE 6.

The combined returns of all rats and mice caught and destroyed by shipping firms employing their own rat-catchers, by rat-catching companies, and by the Public Health Authorities, during the year 1925, are as follows:—

					Rats.	Mice.	Rats.	Mice.
PORT—								
In vessels	...	...	...	...	41,361	241		
On quays	...	...	...	...	2,267	241		
							43,628	482
CITY—								
In warehouses	...	...	...	...	4,788	1		
In sewers and from other sources	...			...	12,701	15		
							17,489	16
						TOTAL ...	61,117	498

Number of Visits to <b>Vessels</b> by Rat Catchers				...	...	3,943
Do.	do.	do.	Rat Searchers	...	...	4,482
Do.	do.	<b>Quays, Sheds, etc.,</b> by Inspectors			...	1,025
Do.	do.	do.	do.	Rat Searchers		996
Do	do.	do.	do.	Rat Catchers		2,950

### Visit of the Minister of Health.

During the visit of the Minister of Health to Liverpool, on October 19th, 1925, a demonstration was arranged on board the s.s. "Tintoretto" in Langton Dock, of the various methods employed for the destruction of rats. The various types of apparatus which have been used for fumigating ships in the Port of Liverpool were set out on the deck. The method of generating sulphur dioxide gas by means of burning sulphur in buckets and by means of cylinders of the liquefied gas were explained. Then the various ways of generating hydrocyanic acid gas by the dumping method, the tipping method, the solution method and by spraying with the liquefied gas were demonstrated. The various means of catching rats by different kinds of traps and by the use of "bird lime" trays were shewn; the drowning of rats in paraffin to kill rat fleas, the system of labelling rats sent for bacteriological examination and the method of handling rats suspected to be infected with plague were all explained.

The holds of the ship were then placed under fumigation with sulphur dioxide gas. The saloon was placed under fumigation with hydrocyanic acid gas by means of spraying in the liquefied gas. Live rats in cages were placed at the portlights of the saloon so that the rapidity with which they were killed by HCN might be observed. Rats in cages were also placed in the portlights of another room which was put under fumigation with SO<sub>2</sub>. The much greater length of time taken to kill rats with SO<sub>2</sub> was very noticeable.

The efficiency of a three-foot metal-disc ratguard properly applied at right angles to a mooring rope was then demonstrated, live rats being placed on the rope and driven towards the guard which they were quite unable to get over.

### Report on the "Zyklon" method of Fumigation.

On March 2nd, 1926, a demonstration of the above method was given on board the s.s. "Amarna" in Huskisson Dock.

The vessel had been prepared beforehand in the usual manner, i.e., ventilators closed, bilge boards lifted, dunnage wood properly stowed and hatches covered.

Zyklon is kieselguhr, a very absorbent infusorial earth, impregnated with a mixture of  $97\frac{1}{2}$  per cent. liquefied hydrogen cyanide and  $2\frac{1}{2}$  per cent. of tear gas.

The tear gas acts as an intimation of danger, but is not present in such a concentration as to make it impossible for a person to enter a space under fumigation, nor could it always be depended upon to give sufficient warning to enable a person to escape before he had received a poisonous dose of hydrogen cyanide.

When the fumigation is over and the spaces have been ventilated for some time, it is not safe to conclude that because no lachrymating effect is experienced there is no danger from HCN.

APPLICATION.—Zyklon is sold by Cyanogen (CN) content and not by the weight of the material in the container. It is packed in strong hermetically sealed tins or canisters containing 500, 1,000, 1,200, and 1,500 grammes of cyanogen. These canisters are placed near the holds in the numbers necessary for fumigation of the particular cubic capacity. Each tin is opened by a special apparatus, which prevents the escape of gas during the process. On removal of the lid a thin rubber cap is placed over each tin unless the contents are to be used immediately. When everything is ready one or more corners of the tarpaulins over the hold are lifted and the contents of the required number of tins are scattered over the bottom of the hold from the deck. The tarpaulin is then replaced and fastened down and the hold remains closed for two hours, after which it is opened up and ventilated in the usual way. In regard to the crew's quarters and other rooms an operator wearing a gas mask enters and scatters the necessary amount of Zyklon on the floor; he then retires and the door is sealed. The HCN and tear gas rapidly escape from the kieselguhr, being all evaporated in about 20 minutes and nothing but a small quantity of a harmless powder being left for removal.



In the holds sufficient Zyklon was used to produce a calculated percentage of 0.15 per cent. of HCN, and the period of exposure was two hours. In the crew's quarters, which were fumigated for the destruction of bed bugs, a concentration of 0.5 per cent. HCN was employed, and the period of exposure was six hours.

Live rats in cages were placed in remote parts of the holds, i.e., in the bilges and under stacks of dunnage wood. In all cases the rats were killed.

In the crew's quarters bed bugs were placed for testing purposes by Professor Newstead, the Entomologist of the Liverpool School of Tropical Medicine, whose report is appended.

The advantages of this method of fumigation are the ease and speed of fumigation, the smallness of the fumigating staff required, the absence of any damage to cargo or fittings, and the fact that there is no residue to be removed after the fumigation is over except for a small quantity of harmless powder.

The only disadvantage is the danger to human life and the great care necessary in testing every part of the ship after ventilation before the vessel is declared free of gas and any of the crew or dock labourers, etc., are permitted on board.

### **Professor Newstead's Report.**

Report on tests made during fumigation of the s.s. "Amarna" with Zyklon on 2nd March, 1926.

Materials used :—10 lots of 10 bugs (A-J) were placed in glass tubes 3in. by 1in., in bottom of each of which was a single piece of green baize. The mouths of the tubes were covered with pieces of cotton voile of wide mesh.

The controls were a lot of 10 bugs arranged under similar conditions, and kept at room temperature during the experiment. The experimental bugs were placed in different positions in the fumigated quarters as follows :—

#### **FIREMEN'S FORECASTLE.**

A.B :—Tubes horizontally inside match boarding box, the mouths of the tubes against the openings in the match-boarding.

C :—Tube horizontally on shelf just below ceiling near centre of one side of room.

D :—Tube horizontally inside locker ; door open.

E :—Tube horizontally on floor behind water pipes, beside locker.

#### SEAMEN'S FORECASTLE.

F :—Tube horizontal on top of locker.

G :—Tube wrapped in cap and coat in locker, door open.

H :—Tube on ledge just above floor line.

I :—Tube wrapped in moist rag on shelf just below ceiling.

J :—Tube wrapped in cotton wool and paper inside closed tin container on bench.

#### RESULT.

The experimental bugs were all killed by the gas. Controls normal on 3rd March, 1926.

### Venereal Diseases.

Satisfactory results are still being achieved as a result of the scheme for the prevention and treatment of venereal diseases.

The clinics, now of several years' standing, have been fully availed of. There were 3,471 new cases, male and female, and the total attendances at the clinics, including the Seamen's Dispensary, were 71,147, representing a reduction of over 4,000 on the previous year.

It may be claimed, therefore, that by prompt, efficient and free treatment, together with carefully conducted educational propaganda, the incidence of the disease has been gradually lessened.

The Liverpool scheme has from time to time been under the consideration of the Ministry of Health, and certain alterations at the Royal Infirmary, including the addition of a new irrigation department, have been effected.

A table shewing attendances, etc., at each of the clinics is given, and also details of the diseases and sexes dealt with at the largest centre, namely, the Royal Infirmary.



RETURN SHOWING THE NUMBER OF NEW PATIENTS ATTENDING  
THE VENEREAL DISEASES CLINICS DURING THE YEAR 1925.  
ALSO TOTAL ATTENDANCES AND IN-PATIENT DAYS OF OLD AND  
NEW PATIENTS DURING SAME PERIOD.

	Royal Infirmary.	Royal Southern Hospital.	David Lewis Northern Hospital.	Stanley Hospital.	TOTAL.
*New patients ... ..	1,197	468	355	316	2,336
Old and new patients—					
Total attendances...	21,060	8,052	7,487	6,760	43,359
In-patient Days ...	40	3,327	—	431	3,798

The occupations stated to be followed by patients registered at the Clinics at the Royal Infirmary during the year are of interest :—

MALES.		FEMALES.	
Seafaring people .....	253	Housewives .....	114
(Of these, 12 were foreign.)		Home duties .....	16
Artizans .....	415	Shop Assistants .....	6
Miscellaneous .....	279	Factory Hands .....	8
(Clerks, Agents, Hawkers, &c.)		Housemaids .....	3
		Waitresses .....	4
		Domestic Servants .....	18
		Other occupations .....	14
		Infants and Children*.....	17
	<u>947</u>		<u>200</u>

In addition, 74 male and 31 female patients who had ceased attending for six months (or longer) resumed their attendances during the year.

26·0 per cent. of the total male patients registered were seafaring people.

4·0 per cent. of the latter were not natives of the British Isles, and are classed as follows :—

U.S.A., 1; Colonies, 3; Sweden, 2; other nationalities, 6.  
Total, 12.

The ages range approximately from 15 to over 60 years, but the majority of the patients were between the ages of 20 and 30 years, as shown by the following table, viz. :—

	Males.	Females.
Under 10	—	*15
10—15	1	2
15—20	27	18
20—25	249	53
25—30	230	39
30—35	194	28
35—45	159	29
45—55	66	12
55—65	18	3
65 upwards	3	1

\* This number includes male infants who are brought to the Female Clinic by their mothers.

Experience shows that many cases of uncertain diagnosis, and simulating syphilis, especially skin eruptions, may be incorrectly reported as syphilitic. Many of them require a more careful investigation before a definite diagnosis can be made. This has also been experienced in the past in other diseases, e.g., typhoid fever, with which disease many simulating conditions were confused.



SEAMEN'S DISPENSARY.

The value of the above Clinic, which was opened early in 1924 for the treatment of ailments associated with seafaring life, more especially Venereal Diseases, has again been demonstrated. The patients are very attentive to treatment, and take an intelligent interest in their progress.

During the year, 1,220 cases were under treatment, the total attendances numbering 27,265. Irrigations average about 100 per diem, and the Medical Officer has seen and treated as many as 80 patients in a day.

The classification of persons dealt with at the Clinic for the first time was as follows :—

Suffering from Syphilis	...	...	...	...	293
„ „ Soft Chancre	...	...	...	...	148
„ „ Gonorrhœa	...	...	...	...	636
Not suffering from Venereal Disease	...	...	...	...	7
<b>Total</b>					1084

The following examinations of pathological material were made :—

For Spirochaetes	...	...	...	...	...	38
„ Gonococci	...	...	...	...	...	1,026
„ other	...	...	...	...	...	7
„ Wasserman Reaction (at City Laboratory)	...	...	...	...	...	469

A memorandum was issued in November last by the Ministry of Health intimating that an International Agreement had been arrived at relating to the treatment of seamen suffering from Venereal Diseases, and that this Agreement had been ratified by H.M. Government.

Under this Agreement facilities will be available at each of the chief sea and river ports of the countries concerned, for the gratuitous treatment of merchant seamen without distinction of nationality, such

facilities to include out-patient treatment, in-patient treatment when the Medical Officer in charge of the Centre considers it to be necessary, and sufficient medical supplies to enable the patient to carry out treatment during the voyage to the next port of call. The patient is to be provided with a card for the purpose of recording the diagnosis of his case, the treatment given and to be followed during the course of the voyage. This card is to be presented at each Treatment Centre attended by the patient. Under certain conditions, the Medical Officer of the Treatment Centre may supply certain drugs, dressings, &c., for use during the voyage, and, in addition, ships' doctors who possess the qualifications set out in the Circular of the Local Government Board (now the Ministry of Health) dated 29th August, 1916, may obtain supplies of approved Arsenobenzol compounds, a return being kept by him of the number and class of patient treated on the voyage, and the number of doses administered.

The important work of bringing home to the general public and those likely to come in contact with Venereal Disease of the dangers arising therefrom is being performed by the Merseyside Boroughs V.D. Education Committee. Addresses have been given in Liverpool by selected medical men at such places as H.M. Prison, Walton; Seamen's Institutes, various industrial concerns, and other suitable centres in the associated Boroughs. They have been well-attended and much appreciated. A lecture to mercantile marine cadets is now included in the series.

The question of obtaining powers to require persons suffering from Venereal Diseases to seek medical aid, which was prominently before us some five years ago, has not been lost sight of, and as far as may be gauged from reports and speeches in the press, etc., public opinion is gradually trending in the direction of some compulsion being exercised on certain types of patients. It is being slowly realised that something more than persuasion may be necessary to control the treatment and spread of these diseases.

STATEMENT SHEWING THE SERVICES RENDERED AT THE V.D. TREATMENT CENTRES  
DURING THE YEAR 1925.

	Syphilis.		Soft Chancres.		Gonorrhoea.		Syphilis and Gonorrhoea.		Conditions other than Venereal.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases which— (a) at the beginning of the year under report were under treatment or observation for ... .. (b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centres during the year under report suffering from the same infection ...	1,211	493	29	3	1,309	282	10	165	171	2,714	959	
	70	31	...	...	57	9	...	3	1	130	41	
TOTAL—Items 1 (a) and 1 (b) ...	1,281	524	29	3	1,366	291	10	168	172	2,844	1,000	
2. (a) Number of cases dealt with at the Treatment Centres during the year for the first time ... .. TOTAL*—Items 1 (a), 1 (b) and 2 (a)	790	267	171	...	1,463	169	30	432	149	2,856	615	
	2,071	791	200	3	2,829	460	40	600	321	5,700	1,615	
2. (b) Number of cases included in Item 2 (a) known to have received previous treatment at other Centres for the same infection ... ..	100	4	42	...	29	4	7	...	...	171	15	
3. Number of cases which ceased to attend— (a) before completing the first course of treatment for ... .. (b) after one or more courses but before completion of treatment for ... (c) after completion of treatment, but before final tests as to cure of ...	265	83	33	...	943	86	25	237	56	1,478	250	
	252	110	...	...	...	...	...	...	...	252	110	
	41	7	14	3	85	...	...	...	...	140	10	





TABLE 7.

## INFECTIOUS DISEASE.

The actual number of cases of Infectious Sickness landed from vessels arriving in the Port of Liverpool during the years 1924 and 1925, and the comparison with the average of the preceding 5 years, is shown in the following table :—

Diseases.	Number of Cases.		Average for the 5 years 1919-1923.
	1924.	1925.	
Smallpox .....	1	1	2·8
Scarlet Fever .....	12	12	14·6
Cerebro-Spinal Meningitis .....	0	0	0·4
Typhus .....	0	0	0·2
Enteric Fever and Paratyphoid...	11	13	13·0
Do. (suspected) .....	0	4	4·8
Diphtheria.....	3	3	13·6
Measles and German Measles . .	9	23	22·6
Erysipelas .....	2	4	3·4
Chicken Pox .....	8	23	11·8
Cholera and Choleraic Diarrhœa.	0	0	0·0
Yellow Fever.....	0	0	0·0
Plague .....	0	0	0·2
Suspected Plague .....	0	0	0·6
Phthisis .....	58	64	48·0
Tuberculosis (other forms of).....	3	5	2·8
Pneumonia and Influenza .....	3	18	30·6
Malaria .....	25	19	36·2
Dysentery .....	1	2	4·8
Encephalitis Lethargica .....	0	0	0·4
Totals.....	136	191	210·8

TABLE 8.  
INFECTIOUS DISEASE.

The number of cases of Infectious Sickness reported to have occurred on Liverpool-bound ships during the years 1924 and 1925, and which were disposed of prior to the arrival of the vessel at this port, and the average of such cases for the preceding 5 years, are as follows :—

Diseases.	Number of Cases.		Average for the 5 years 1919-1923.
	1924.	1925.	
Smallpox .....	13	15	11·8
Scarlet Fever .....	3	2	1·4
Cerebro-Spinal Meningitis .....	0	1	0·8
Enteric Fever .....	21	15	10·6
Typhus .....	0	0	0·2
Para-Typhoid .....	0	2	0·8
Diphtheria .....	6	2	2·8
Measles and German Measles ...	21	46	26·0
Erysipelas .....	2	2	1·0
Chicken Pox .....	19	17	10·6
Cholera (suspected) .....	1	0	0·6
Malaria .....	314	297	487·4
Yellow Fever .....	0	1	0·0
Plague .....	4	0	0·6
Suspected Plague .....	0	0	0·4
Phthisis .....	32	25	15·0
Tuberculosis (other forms of)	12	12	5·8
Pneumonia and Influenza ...	39	20	29·8
Dysentery .....	16	25	6·8
Anthrax .....	0	0	0·2
Totals.....	503	482	612·6



The following Table gives particulars of the vessels  
Infectious Disease on board, with the measures adopted

TABLE 9.

## SMALLPOX.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Jan. 1	<b>Avristan</b> ... ..	Karachi ... ..	1
„ 30	<b>Elmina</b> ... ..	West Coast Africa ... ..	1
Mar. 9	<b>Ayrshire</b> ... ..	Australia ... ..	1
„ 17	<b>City of Brisbane</b> ... ..	India Ports ... ..	1
April 14	<b>City of Harvard</b> ... ..	— ... ..	1
„ 14	<b>Oxfordshire</b> ... ..	Rangoon ... ..	1
„ 21	<b>Holywell</b> ... ..	Bombay ... ..	1
„ 23	<b>Elysia</b> ... ..	Bombay ... ..	1
„ 28	<b>Macharda</b> ... ..	Calcutta ... ..	1
May 25	<b>Warwickshire</b> ... ..	Rangoon ... ..	2
June 8	<b>Castalia</b> ... ..	Bombay ... ..	1
„ 8	<b>City of Brisbane</b> ... ..	Bombay ... ..	1 ?
July 28	<b>City of Brisbane</b> ... ..	India Ports ... ..	1 ?
Sept. 12	<b>Olympia</b> ... ..	Bombay ... ..	1 ?
Oct. 23	<b>Montrose</b> ... ..	Quebec ... ..	1

## ENTERIC FEVER.

Jan. 6	<b>Massilia</b> ... ..	Bombay ... ..	1
„ 21	<b>Lucy</b> ... ..	Riga ... ..	1
„ 22	<b>Tuscany</b> ... ..	Rosario ... ..	3
„ 26	<b>Leningrad</b> ... ..	Leningrad ... ..	1
„ 27	<b>Gladiator</b> ... ..	Buenos Ayres ... ..	1
Mar. 7	<b>Orita</b> ... ..	West Coast S. America ... ..	1 ?
„ 14	<b>Nasmyth</b> ... ..	River Plate ... ..	1
„ 30	<b>Oropesa</b> ... ..	Peru ... ..	1

reported on their arrival as having, or having had, in each case;—

Rating.		How dealt with.
— ...	...	Landed Suez.
2 Firemen natives	...	Removed to hospital at Sierra Leone.
Lascar seaman	...	Landed Colombo.
Native fireman	...	Landed Dunkirk.
Native seaman	...	Landed Suez.
Baker	...	Landed Colombo.
Native seaman	...	Landed Aden.
Passenger	...	Landed Suez.
Lascar	...	Landed Colombo.
Fireman and seaman	...	Landed Colombo,
Native seaman	...	Landed Suez.
Native seaman	...	Landed Suez.
Native seaman	...	Landed Suez.
Native seaman	...	Landed Suez.
Miner emigrant	...	Removed to Port Sanitary Hospital.

Chief Officer	...	Well on arrival, proceeded to Glasgow.
Boy stowaway	...	Removed to Fazakerley Hospital.
Third Officer and A.B.	...	Landed Las Palmas.
A.B....	...	Landed St. Vincent.
Fireman	...	Removed to David Lewis Northern Hospital.
Chief Officer	...	Convalescent, on arrival proceeded home.
Passenger	...	Removed City Hospital, Fazakerley, proved to be Gastro-enteritis.
A.B....	...	Removed to Bootle Borough Hospital.
Steward	...	Landed Valparaiso.

## ENTERIC FEVER—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
April 6	<b>Darro...</b> ... ..	Buenos Ayres ... ..	1
„ 8	<b>Melampus</b> ... ..	Amsterdam ... ..	1 ?
„ 10	<b>Spectator</b> ... ..	Galveston ... ..	—
„ 15	<b>Orbe</b> ... ..	Bilbao ... ..	1
„ 27	<b>Matador</b> ... ..	Colombo ... ..	1 ?
June 3	<b>Ruis y Taulet</b> ... ..	Valencia ... ..	1
„ 3	<b>British Transport</b> ... ..	Buenos Ayres ... ..	1
„ 26	<b>Agamemnon...</b> ... ..	West Indies ... ..	1
July 9	<b>Megantic</b> ... ..	Montreal ... ..	1
Aug. 29	<b>Carmania</b> ... ..	New York ... ..	1
Sept. 11	<b>Maronian</b> ... ..	Alexandria ... ..	1
„ 21	<b>Doric</b> ... ..	Montreal ... ..	1 ?
Oct. 23	<b>Ramon de Larrinaga</b> ... ..	Pensacola ... ..	1 ?
„ 27	<b>Berwickshire</b> ... ..	Avonmouth ... ..	2
Nov. 4	<b>Delilian</b> ... ..	Galveston ... ..	1
„ 7	<b>Devonian</b> ... ..	Boston ... ..	2
„ 17	<b>Deseado</b> ... ..	River Plate ... ..	1
„ 19	<b>Mosella</b> ... ..	Galveston ... ..	1 ?
„ 26	<b>Delilian</b> ... ..	Galveston ... ..	1
„ 30	<b>Dramatist</b> ... ..	Calcutta ... ..	1
Dec. 10	<b>Ediba</b> ... ..	West Coast Africa ... ..	2 ?
„ 22	<b>Dryden</b> ... ..	Buenos Ayres ... ..	1

## SCARLET FEVER.

Jan. 10	<b>Montclare</b> ... ..	St. John, N.B. ... ..	1
Mar. 21	<b>Patrician</b> ... ..	Seattle ... ..	1
„ 21	<b>Montclare</b> ... ..	St. John, N.B. ... ..	1
April 23	<b>Ulysses</b> ... ..	Adelaide ... ..	2
Sept. 28	<b>Kemmendine</b> ... ..	Rangoon ... ..	1



Rating.			How dealt with.
Passenger	...	...	Removed to City Hospital, Fazakerley.
A.B....	...	...	Landed Glasgow.
Seaman	...	...	Removed to City Hospital, Fazakerley, proved not infectious.
A.B....	...	...	Admitted to Garston Hospital.
Third Officer	...	...	Landed Algiers.
Master	...	...	Removed to City Hospital, Fazakerley.
Fireman	...	...	Landed Buenos Ayres.
Engineer	...	...	Removed to City Hospital, Fazakerley, proved non-infectious.
Cook	...	...	Removed to City Hospital, Fazakerley.
Passenger	...	...	Removed to Nursing Home in the City.
Cook	...	...	Proceeded to Waterloo.
Fireman	...	...	Landed Montreal.
Seaman	...	...	Landed Pensacola.
Natives	...	...	2 Seamen removed to Avonmouth.
Seaman	...	...	Removed to City Hospital, Fazakerley.
Sailors	...	...	Removed to City Hospital, Fazakerley.
—	...	...	Landed Lisbon.
Seaman	...	...	Admitted to Bootle Borough Hospital.
Fireman	...	...	Removed to Brownlow Hill Hospital.
Second Engineer	...	...	Landed Colombo.
Carpenter and Q.M.			Removed to Royal Infirmary.
Seaman	...	...	Landed Las Palmas.

Passenger	...	...	Removed to City Hospital, Netherfield Road.
Apprentice	...	...	Removed to City Hospital, Netherfield Road.
Passenger	...	...	Removed to City Hospital, Fazakerley.
Passenger	...	...	Removed to City Hospital, Fazakerley.
Engineer	...	...	Removed to Hospital at Leith.

## SCARLET FEVER—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Nov. 9	Montnairn ... ..	Quebec ... ..	1
„ 14	Indefatigable ... ..	River Mersey ... ..	4
„ 23	Indefatigable ... ..	River Mersey ... ..	1
„ 24	Indefatigable ... ..	River Mersey ... ..	1
Dec. 8	Indefatigable ... ..	River Mersey ... ..	1
„ 15	Landes ... ..	Bordeaux ... ..	1

## DIPHTHERIA.

Feb. 21	Montclare ... ..	St. John, N.B. ... ..	1
June 12	Montclare ... ..	Montreal ... ..	1
Aug. 7	Starlight ... ..	Braila ... ..	1
Nov. 16	Caronia ... ..	New York ... ..	1

## CHICKENPOX.

Feb. 9	Kemmendine ... ..	Rangoon ... ..	2
„ 13	Manchester Division ... ..	St. John, N.B. ... ..	1
„ 23	Caronia ... ..	New York ... ..	1
„ 25	Akabo ... ..	West Coast Africa ... ..	1
Mar. 7	Montcalm ... ..	St. John, N.B. ... ..	1
„ 16	Aurania ... ..	New York ... ..	1
„ 23	Caronia ... ..	New York ... ..	1
„ 24	Clan Mathieson ... ..	Indian Ports ... ..	1
April 3	City of Exeter ... ..	Bombay ... ..	1
„ 18	Montclare ... ..	St. John, N.B. ... ..	1
May 8	Henzada ... ..	Rangoon ... ..	1
„ 25	Canada ... ..	Montreal ... ..	3
June 5	Montcalm ... ..	Montreal ... ..	1
„ 8	Castalia ... ..	Bombay ... ..	4
„ 9	Castalia ... ..	Bombay ... ..	1
„ 21	Caronia ... ..	New York ... ..	1
„ 29	Castalia ... ..	Bombay ... ..	6

Rating.	How dealt with.	
Engineer ...	...	Landed Quebec.
Cadets ...	...	2 removed to City Hospital, Sparrow Hall, 2 removed to City Hospital, Fazakerley.
Cadet ...	...	Removed to City Hospital, Netherfield Road.
Cadet ...	...	Removed to City Hospital, Grafton Street.
Cadet ...	...	Removed to City Hospital, Grafton Street.
Steward ...	...	Removed to Bootle Borough Hospital.
Passenger ...	...	Landed Partridge Island.
Passenger ...	...	Removed to City Hospital East, Mill Lane.
Engineer ...	...	Died and was buried at Braila.
Luggage Master ...	...	Removed to City Hospital, Fazakerley.
Cook and Butcher ...	...	Ill during voyage.
Native fireman ...	...	Removed to Port Sanitary Hospital.
Passenger ...	...	Landed Boston.
Native fireman ...	...	Removed to Port Hospital.
Passenger ...	...	Landed Partridge Island.
Child passenger ...	...	Landed Ellis Island.
Cook ...	...	Removed to Port Sanitary Hospital.
Native seaman ...	...	Landed Coranada.
Native fireman ...	...	Left at Port Said.
Passenger ...	...	Removed to City Hospital, Fazakerley.
Native seaman ...	...	Landed Perim.
Passengers, Children ...	...	Removed to City Hospital, Fazakerley.
Passenger ...	...	Landed at Quebec.
Children ...	...	Treated on board, recovered on arrival.
Lascar ...	...	Removed to Port Sanitary Hospital.
Passenger ...	...	Landed Queenstown.
Natives ...	...	Removed to Port Sanitary Hospital.



## CHICKENPOX—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
July 31	Montcalm ... ..	Montreal ... ..	1
Sept. 22	City of Paris ... ..	Karachi ... ..	5
„ 25	Castalia ... ..	Bombay ... ..	2
Oct. 5	City of Paris ... ..	Karachi ... ..	1
Dec. 5	California ... ..	Bombay ... ..	1
„ 12	Montrose ... ..	St. John, N.B. ... ..	1
„ 14	Montrose ... ..	St. John, N.B. ... ..	1

## MALARIA.

Jan. 3	Mateba ... ..	West Coast Africa ... ..	3
„ 6	Hibernia ... ..	West Coast Africa ... ..	3 ?
„ 6	Massilia ... ..	Bombay ... ..	3
„ 7	Cedric ... ..	New York ... ..	1
„ 8	Caribou ... ..	Beira ... ..	1
„ 9	Oroya ... ..	Callao ... ..	1
„ 16	Deucalion ... ..	— ... ..	1
„ 16	Nitonian ... ..	Tampico ... ..	8
„ 19	City of Cairo ... ..	Karachi ... ..	2
„ 19	Salaga ... ..	Lagos ... ..	7
„ 24	Oriana ... ..	Valparaiso ... ..	2
„ 26	Eboe ... ..	West Coast Africa ... ..	4
„ 28	Egba ... ..	Lagos ... ..	3
„ 30	Boma... ..	West Coast Africa ... ..	1
Feb. 9	Woodville ... ..	West Coast Africa ... ..	2
„ 9	Ediba ... ..	West Coast Africa ... ..	6
„ 10	Bathurst ... ..	West Coast Africa ... ..	5
„ 20	Bata ... ..	Lagos ... ..	1
„ 23	Castalia ... ..	Bombay ... ..	14
„ 26	Onitsha ... ..	West Coast Africa ... ..	3
Mar. 11	Fordefjord ... ..	West Coast Africa ... ..	3
„ 11	Aba ... ..	West Coast Africa ... ..	1

Rating.	How dealt with.	
Passenger ... ..	A child landed Quebec.	
Waiters ... ..	Removed to Port Sanitary Hospital.	
Natives ... ..		
Waiter ... ..	Removed to Port Sanitary Hospital.	
Passenger ... ..	Removed to City Hospital, Fazakerley.	
Passenger ... ..	Removed to Port Sanitary Hospital.	
Passenger ... ..	Removed to Port Sanitary Hospital.	
Second Officer and 2 Seamen ... ..		Removed to Tropical Ward, Royal Infirmary.
Boatswain and 2 Crew ... ..		Removed to Tropical Ward, Royal Infirmary.
Third Officer and 2 Natives ... ..		Occurred during voyage.
Steward ... ..	Occurred during voyage.	
Second Engineer ... ..	Occurred during voyage.	
Passenger ... ..	Landed at Santander.	
Third Engineer ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Stewardesses ... ..	Occurred whilst at Karachi.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
Crew ... ..	Occurred during voyage.	
— ... ..	2 cases left in Hospital in Lagos, and 3 in London.	
Marconi Operator	Well on arrival.	
Crew and Passengers	All well on arrival.	
Ship's Butcher and	All well on arrival.	
2 Wireless		
Watchers ... ..	All well on arrival.	
Second Steward and 2 Seamen ... ..		All well on arrival.
Passenger ... ..	Removed to Royal Infirmary.	

## M A L A R I A—Continued.

Date, 1925.	Name of Vessel.				Where from.	No. of Cases.
Mar. 17	<b>City of Madrid</b>	...	...	...	Bombay ... ..	1
„ 18	<b>Venizelos</b>	...	...	...	Nicolieff ... ..	1
„ 18	<b>Barracoo</b>	...	...	...	West Coast Africa ... ..	3
„ 18	<b>Egori</b>	...	...	...	West Coast Africa ... ..	1
„ 19	<b>Budeney</b>	...	...	...	Georgia ... ..	1 ?
„ 23	<b>Amakura</b>	...	...	...	Demerara ... ..	1
„ 25	<b>Tarantia</b>	...	...	...	Bombay ... ..	1
April 1	<b>Aba</b>	...	...	...	West Coast Africa ... ..	1
„ 3	<b>Bellerophon</b>	...	...	...	Saigon ... ..	1
„ 6	<b>Bompata</b>	...	...	...	West Coast Africa ... ..	8
„ 7	<b>Scindia</b>	...	...	...	Bombay ... ..	2
„ 7	<b>Simaloer</b>	...	...	...	Batavia ... ..	1
„ 14	<b>Alcinous</b>	...	...	...	Java ... ..	1
„ 17	<b>Clan Malcolm</b>	...	...	...	Australia, etc. ... ..	1
„ 28	<b>Macharda</b>	...	...	...	Calcutta ... ..	2
„ 28	<b>Zaria</b>	...	...	...	West Coast Africa ... ..	1
May 5	<b>Athelstan</b>	...	...	...	Java ... ..	3
„ 7	<b>Bodnant</b>	...	...	...	West Coast Africa ... ..	1
„ 15	<b>Malvernian</b>	...	...	...	Cape Town ... ..	2
„ 15	<b>Egba</b>	...	...	...	West Coast Africa ... ..	1
„ 19	<b>Elmina</b>	...	...	...	West Coast Africa ... ..	1
„ 20	<b>Ediba</b>	...	...	...	West Coast Africa ... ..	13
„ 25	<b>Helgoy</b>	...	...	...	West Coast Africa ... ..	1
June 8	<b>Castalia</b>	...	...	...	Bombay ... ..	2
„ 9	<b>Orita</b>	...	...	...	Valparaiso ... ..	1
„ 10	<b>Bathurst</b>	...	...	...	West Coast Africa ... ..	3
„ 11	<b>Silarus</b>	...	...	...	Santos ... ..	1
„ 13	<b>Bata</b>	...	...	...	West Coast Africa ... ..	1
„ 22	<b>Fordefjord</b>	...	...	...	West Coast Africa ... ..	1
„ 23	<b>Adda</b>	...	...	...	West Coast Africa ... ..	5
„ 25	<b>Bereby</b>	...	...	...	West Coast Africa ... ..	4
„ 29	<b>City of Lahore</b>	...	...	...	Glasgow ... ..	1
July 6	<b>Egori</b>	...	...	...	West Coast Africa ... ..	11
„ 7	<b>Ebani...</b>	...	...	...	West Coast Africa ... ..	3
„ 8	<b>Cedric</b>	...	...	...	New York ... ..	1



Rating.	How dealt with.	
Apprentice ...	...	Removed to Hospital, Bombay.
A.B....	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Seaman	...	Occurred during voyage.
Galley boy	...	Removed to Mill Road Institution.
Fireman	...	Left in Hospital, Demerara.
Passenger	...	Occurred during voyage.
—	...	Removed to Royal Infirmary.
Steward	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Native seaman and a Pantryman	...	Seaman landed Marseilles, Pantryman suffered during voyage.
Apprentice	...	Left in Hospital, Sarbang.
Third Officer	...	Landed London.
Fifth Engineer	...	Landed Madras.
Native trimmer and native Q.M.	...	Trimmer treated on board, Q.M. landed Colombo.
Third Wireless Operator	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Deck boy	...	Occurred during voyage.
Lascars	...	Occurred during voyage.
Native	...	Died during voyage.
Deck boy	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Engineer	...	Admitted to Tropical Ward, Royal Infirmary.
Natives	...	Occurred during voyage.
Passenger	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Cook	...	Landed Santos.
Q.M.	...	Occurred during voyage.
Seaman	...	Occurred during voyage.
2 Crew	...	Admitted to Tropical Ward, Royal Infirmary.
2 Cadets	...	Occurred during voyage.
1 Printer	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Steward	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Crew	...	Occurred during voyage.
Steward	...	Occurred during voyage.

## MALARIA—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
July 8	Aba ... ..	West Coast Africa ... ..	5
„ 9	Nubian ... ..	Vera Cruz ... ..	4
„ 19	Scindia ... ..	Bombay ... ..	3
„ 20	Nias ... ..	Singapore ... ..	1
„ 21	Celtic ... ..	New York ... ..	1
„ 21	City of Evansville ... ..	Bombay ... ..	1
„ 21	Abinsi ... ..	West Coast Africa ... ..	1
„ 22	Ethiopian ... ..	Lagos ... ..	4
„ 25	Oriana ... ..	Valparaiso ... ..	1
„ 27	Raeburn ... ..	Buenos Ayres ... ..	1
„ 30	Salaga ... ..	West Coast Africa ... ..	3
Aug. 4	Appam ... ..	West Coast Africa ... ..	5
„ 7	Bompata ... ..	West Coast Africa ... ..	1
„ 11	Baltic... ..	New York ... ..	1
„ 13	Domino ... ..	Baltic ... ..	1
„ 17	Biafra ... ..	Lagos ... ..	11
„ 27	Eboe ... ..	West Coast Africa ... ..	2
„ 31	Cedric ... ..	New York ... ..	1
Sept. 3	Ediba ... ..	West Coast Africa ... ..	7
„ 4	Woodville ... ..	West Coast Africa ... ..	5
„ 9	Defender ... ..	Calcutta ... ..	1
„ 12	Adda ... ..	West Coast Africa ... ..	6
„ 15	Ekari ... ..	West Coast Africa ... ..	1
„ 15	Barracoo ... ..	West Coast Africa ... ..	4
„ 15	Roquelle ... ..	West Coast Africa ... ..	1
„ 22	Laertes ... ..	Singapore ... ..	1
„ 22	Clematis ... ..	West Coast Africa ... ..	1
„ 23	Bathurst ... ..	Lagos ... ..	3
„ 23	City of Agra ... ..	Mombasa ... ..	1
„ 23	Ashantian ... ..	West Coast Africa ... ..	4
„ 25	Castalia ... ..	Bombay ... ..	1
„ 26	Oropesa ... ..	Valparaiso ... ..	2
„ 29	Abinsi ... ..	West Coast Africa ... ..	2
Oct. 7	Zaria ... ..	West Coast Africa ... ..	1
„ 8	Carlo Pisacane ... ..	Monte Video ... ..	3
„ 12	Oroya ... ..	West Coast Africa ... ..	1
„ 13	Ethiopian ... ..	West Coast Africa ... ..	3

Rating.	How dealt with.	
Crew ...	...	A Seaman admitted to Royal Southern Hospital, 4 others of the Crew were treated on board.
Crew ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
Greaser ...	...	Left in Hospital, Batavia.
Steward ...	...	Proceeded to his home in Liverpool.
Apprentice ...	...	Occurred during voyage.
Pantryman ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
Passenger ...	...	Landed Santander.
Seaman ...	...	Left in Hospital, London.
Crew ...	...	Occurred during voyage.
Crew ...	...	} Occurred during voyage.
Passenger ...	...	
Carpenter ...	...	Landed Sierra Leone.
Engineer ...	...	Occurred during voyage.
Seaman ...	...	Landed Hospital, Stavanger.
Crew ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
D.B.S. ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
Deck Serang ...	...	Landed London.
Passengers ...	...	A Passenger proceeded to Tropical Ward, Royal Infirmary, five others treated on board.
— ...	...	Admitted to Royal Infirmary.
Crew ...	...	Occurred during voyage.
Boatswain ...	...	Occurred during voyage.
Chinese fireman ...	...	Occurred during voyage.
Cook ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.
Native greaser ...	...	Died and was buried at sea.
Crew ...	...	Occurred during voyage.
Q.M. ...	...	Occurred during voyage.
Passengers ...	...	One landed Vigo, the other at Corunna.
Stewards ...	...	Occurred during voyage.
Cadet ...	...	Occurred during voyage.
First and Second Officers, Stoker ...	...	Admitted to Royal Infirmary, Liverpool.
Passenger ...	...	Occurred during voyage.
Crew ...	...	Occurred during voyage.



## M A L A R I A—Continued.

Date, 1925.	Name of Vessel.				Where from.	No. of Cases.
Oct. 13	<b>Appam</b>	...	...	...	West Coast Africa ...	2
„ 15	<b>Boetan</b>	...	...	...	Java ...	3
„ 17	<b>Ebani...</b>	...	...	...	West Coast Africa ...	1
„ 17	<b>Norwegian</b>	...	...	...	Galveston ...	9
„ 26	<b>Bereby</b>	...	...	...	Lagos ...	4
„ 27	<b>Salaga</b>	...	...	...	Lagos ...	3
Nov. 6	<b>Elmina</b>	...	...	...	West Coast Africa ...	1
„ 9	<b>Ada</b>	...	...	...	West Coast Africa ...	1
„ 16	<b>Massilia</b>	...	...	...	Bombay ...	1
„ 18	<b>City of Canterbury</b>	...	...	...	Bombay ...	2
„ 21	<b>Burma</b>	...	...	...	Rangoon ...	1
„ 21	<b>Bompata</b>	...	...	...	West Coast Africa ...	1
„ 30	<b>Eboe</b>	...	...	...	West Coast Africa ...	4
„ 30	<b>Patrician</b>	...	...	...	Tampico ...	3
Dec. 1	<b>Elysia</b>	...	...	...	Bombay ...	12
„ 7	<b>Ekari</b>	...	...	...	West Coast Africa ...	1
„ 5	<b>California</b>	...	...	...	Bombay ...	1
„ 10	<b>Holywell</b>	...	...	...	Calcutta ...	1
„ 10	<b>Ediba</b>	...	...	...	West Coast Africa ...	3
„ 17	<b>Dakotian</b>	...	...	...	Vera Cruz ...	1
„ 22	<b>Ashantian</b>	...	...	...	Lagos ...	1
„ 23	<b>Thos. Holt</b>	...	...	...	West Coast Africa ...	1
„ 24	<b>Bathurst</b>	...	...	...	West Coast Africa ...	3
„ 26	<b>Oropesa</b>	...	...	...	Valparaiso ...	1
„ 29	<b>Circassia</b>	...	...	...	Rangoon ...	1
„ 31	<b>Dalila</b>	...	...	...	Dakar ...	2
„ 31	<b>Bata</b>	...	...	...	West Coast Africa ...	1

## P U L M O N A R Y T U B E R C U L O S I S.

Jan. 7	<b>Cedric</b>	...	...	...	New York ...	1
„ 14	<b>Hughli</b>	...	...	...	— ...	1 ?
„ 19	<b>Caronia</b>	...	...	...	New York ...	1
Feb. 4	<b>Orcoma</b>	...	...	...	Peru ...	1
„ 7	<b>Montcalm</b>	...	...	...	St. John ...	1
„ 9	<b>Cedric</b>	...	...	...	New York ...	1
„ 14	<b>Montlaurier</b>	...	...	...	St. John ...	1
„ 21	<b>Ortega</b>	...	...	...	West Coast America ...	1
„ 23	<b>Celtic</b>	...	...	...	New York ...	2

Rating.			How dealt with.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Marconi Operator	...	...	Occurred during voyage.
Cadet	...	...	Occurred during voyage.
Passenger	...	...	Occurred during voyage.
Native seamen	...	...	Occurred during voyage.
Ship's Surgeon	...	...	Admitted to Tropical Ward, Royal Infirmary.
Wireless Watcher	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Crew	...	...	Landed Bombay.
Deck Boy	...	...	Occurred during voyage.
Passenger	...	...	Occurred during voyage.
Native (Crew)	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Q.M.	...	...	Occurred during voyage.
Donkeyman	...	...	Occurred during voyage.
Chief Officer	...	...	Occurred during voyage.
Crew	...	...	Occurred during voyage.
Passenger	...	...	Occurred during voyage.
—	...	...	Admitted to Tropical Ward, Royal Infirmary.
Native seamen	...	...	Admitted to Tropical Ward, Royal Infirmary.
Crew	...	...	Occurred during voyage.
Passenger	...	...	Landed at Queenstown.
Native fireman	...	...	Admitted to Royal Infirmary.
D.B.S.	...	...	Admitted to Royal Infirmary.
Passenger	...	...	Proceeded home.
Miner deport	...	...	Proceeded home.
Deport	...	...	Proceeded home.
Deport	...	...	Proceeded home.
Steward	...	...	Proceeded home.
Passengers	...	...	One proceeded home, the other admitted to Highfield Sanatorium, Liverpool.

## PULMONARY TUBERCULOSIS—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Feb. 24	<b>Desna</b> ... ..	Buenos Ayres ... ..	2
„ 28	<b>Montrose</b> ... ..	St. John ... ..	2
Mar. 7	<b>Montcalm</b> ... ..	St. John ... ..	1
„ 9	<b>Carmania</b> ... ..	New York ... ..	1
„ 23	<b>Celtic</b> ... ..	New York ... ..	1
„ 23	<b>Caronia</b> ... ..	New York ... ..	1
„ 30	<b>Montrose</b> ... ..	St. John ... ..	1
„ 30	<b>Ekari</b> ... ..	West Coast Africa ... ..	1
April 4	<b>Clan MacKay</b> ... ..	Rangoon ... ..	1
„ 6	<b>Cedric</b> ... ..	New York ... ..	1
„ 6	<b>Lima Maru</b> ... ..	Singapore ... ..	1
„ 7	<b>Samaria</b> ... ..	Alexandria ... ..	1
„ 13	<b>Canopic</b> ... ..	New York ... ..	2
„ 14	<b>City of Dunedin</b> ... ..	Fremantle ... ..	1
„ 20	<b>Caronia</b> ... ..	New York ... ..	1
„ 21	<b>Celtic</b> ... ..	New York ... ..	1 ?
„ 28	<b>Berwickshire</b> ... ..	Australia ... ..	1
„ 30	<b>Montroyal</b> ... ..	St. John ... ..	1
May 11	<b>Baltic...</b> ... ..	New York ... ..	1
„ 11	<b>Megantic</b> ... ..	Montreal ... ..	1
„ 13	<b>Clan McKinnon</b> ... ..	Mombasa ... ..	1
„ 22	<b>Montrose</b> ... ..	Montreal ... ..	1
„ 23	<b>Ortega</b> ... ..	Valparaiso ... ..	1 ?
„ 30	<b>Digby...</b> ... ..	Boston ... ..	1
„ 30	<b>Montroyal</b> ... ..	Quebec ... ..	1
June 1	<b>Doric</b> ... ..	Montreal ... ..	1
„ 2	<b>Orita</b> ... ..	Valparaiso ... ..	1
„ 8	<b>Cedric</b> ... ..	New York ... ..	1
„ 13	<b>Regina</b> ... ..	Montreal ... ..	1
„ 16	<b>Darro...</b> ... ..	Buenos Ayres ... ..	3
„ 26	<b>Montroyal</b> ... ..	Quebec ... ..	1
July 3	<b>Montcalm</b> ... ..	Quebec ... ..	1
„ 13	<b>City of York</b> ... ..	Bombay ... ..	1



Rating.	How dealt with.
Passengers ...	One died and buried at sea, the other landed Vigo.
Passengers ...	
Passenger ...	Proceeded home.
Passenger ...	Proceeded home.
Steward ...	Proceeded home.
Passenger ...	Proceeded home.
Passenger ...	Proceeded home.
Passenger ...	Proceeded home.
Native trimmer ...	Admitted to Mill Road Infirmary, Liverpool.
D.B.S. ...	Proceeded home.
Seaman ...	Remained on board.
Passenger ...	Landed Venice.
Deport and Passenger ...	Deport en route for Russia, the passenger proceeded home.
Trimmer ...	Admitted to Birkenhead Borough Hospital.
Deport ...	Proceeded home.
Deport ...	Proceeded home.
Waiter ...	Proceeded to Belfast.
Native fireman ...	Landed Sydney.
Deport ...	Proceeded to Plymouth.
Bar tender ...	Proceeded to Belfast.
Deport ...	Admitted to Highfield Sanatorium, Liverpool.
Native fireman ...	Landed Port Sudan.
Fireman ...	Proceeded home (London).
D.B.S. ...	Proceeded home.
Pantry boy ...	Proceeded home.
Deport ...	Proceeded to his home in Middlesborough.
Passenger ...	Proceeded to his home in London.
Passenger ...	Proceeded to his home in Bromborough Pool.
D.B.S. ...	Proceeded to Glasgow.
Domestic servant ...	Landed Queenstown.
Passenger ...	Proceeded to Cardiff.
Portuguese emigrants ...	Landed Vigo.
Passenger ...	Landed and proceeded.
Deport ...	Proceeded home.
Trimmer ...	Remained on board for removal to hospital at Glasgow.

## PULMONARY TUBERCULOSIS—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
July 13	<b>Boonah</b> ... ..	Sydney ... ..	1
„ 21	<b>Celtic</b> ... ..	New York ... ..	1
„ 25	<b>Oriana</b> ... ..	Valparaiso ... ..	1
„ 30	<b>Holbein</b> ... ..	Rosario ... ..	1
Aug. 4	<b>Orcoma</b> ... ..	Peru ... ..	1
„ 5	<b>Suffolk</b> ... ..	New Zealand ... ..	1
„ 17	<b>Elmina</b> ... ..	Lagos ... ..	1
„ 22	<b>Ortega</b> ... ..	Coronel ... ..	1
„ 24	<b>Doric</b> ... ..	New York ... ..	1
„ 24	<b>Adriatic</b> ... ..	New York ... ..	1
„ 24	<b>Darro...</b> ... ..	Buenos Ayres ... ..	1
„ 25	<b>Rialto</b> ... ..	Bombay ... ..	1
„ 28	<b>Hildebrand</b> ... ..	Manaos ... ..	1 ?
„ 29	<b>Aurania</b> ... ..	Montreal ... ..	1
Sept. 4	<b>Samaria</b> ... ..	Boston ... ..	1
„ 7	<b>Deseado</b> ... ..	La Plata ... ..	1
„ 9	<b>Ekari</b> ... ..	West Coast Africa ... ..	1
„ 14	<b>Canada</b> ... ..	Montreal ... ..	1 ?
„ 21	<b>Doric</b> ... ..	Montreal ... ..	1
„ 22	<b>Catherine</b> ... ..	Buenos Ayres ... ..	1
„ 28	<b>Aurania</b> ... ..	Montreal ... ..	1
Oct. 5	<b>Demerara</b> ... ..	La Plata ... ..	1
„ 6	<b>Ena de Larrinaga</b> ... ..	Buenos Ayres ... ..	1
„ 23	<b>Oriana</b> ... ..	Valparaiso ... ..	2
„ 27	<b>Adda</b> ... ..	West Coast Africa ... ..	1
Nov. 2	<b>Regina</b> ... ..	Montreal ... ..	1
„ 3	<b>Baltic...</b> ... ..	New York ... ..	1
„ 4	<b>La Crescenta...</b> ... ..	Samarang ... ..	1
„ 9	<b>Adda</b> ... ..	West Coast Africa ... ..	3
„ 10	<b>Clan Mathieson</b> ... ..	Java ... ..	1
„ 14	<b>Montrose</b> ... ..	Montreal ... ..	1
„ 17	<b>Deseado</b> ... ..	River Plate ... ..	1
„ 21	<b>Montcalm</b> ... ..	Montreal ... ..	1
„ 23	<b>Ortega</b> ... ..	West Coast America ... ..	1

Rating.		How dealt with.
Greaser ...	...	Proceeded to his home in London.
Passenger ...	...	Proceeded home.
Passenger ...	...	Landed Santander.
Passenger ...	...	Died and was buried at sea.
Naval rating ...	...	Proceeded with detachment to Chatham.
Greaser ...	...	Landed Avonmouth.
Seaman ...	...	Admitted to City Hospital, Fazakerley, Liverpool.
Passenger ...	...	Landed Corunna.
Deport ...	...	Proceeded to Finland.
Shipwright ...	...	Proceeded to North Shields.
Steward ...	...	Proceeded home.
Fireman ...	...	Admitted to Brownlow Hill Hospital, Liverpool.
Steward ...	...	Proceeded home.
Seaman ...	...	Proceeded home.
Nurse ...	...	Landed Queenstown.
Chief Steward ...	...	Admitted to City Hospital, Fazakerley
Passenger ...	...	Landed at Leixois.
Passenger ...	...	Died during voyage.
Passenger ...	...	Proceeded to his home in Reading.
Deport Miner ...	...	Proceeding to Jugo Slavia.
Captain ...	...	Proceeded to his home in Bootle.
Deport ...	...	Proceeding to Helsingfors.
Passenger (French) ...	...	Died.
Japanese fireman ...	...	Proceeded to Cardiff.
Passengers ...	...	A Spanish Passenger was landed at Santander and a Hungarian Passenger at La Pallice.
Passenger ...	...	Died and buried at sea.
Passenger ...	...	Admitted to Highfield Sanatorium, Liverpool.
Steward ...	...	Proceeded to his home.
Fireman ...	...	Landed Aden.
Doctor, Passenger, Cleaner ...	...	A Doctor, a First Class Passenger, and a Cleaner proceeded to France, Ipswich and Liverpool, respectively.
Fireman ...	...	Landed Suva.
Fireman ...	...	Proceeded to London.
Passenger ...	...	Landed Lisbon.
Passenger ...	...	Proceeded to Denmark.
Steward ...	...	Proceeded to his home in Liverpool.



## TUBERCULOSIS (Other Forms).

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Jan. 23	<b>Median</b> ... ..	New Orleans ... ..	1
Feb. 16	<b>Olympia</b> ... ..	Bombay ... ..	1
Mar. 24	<b>Clan Mathieson</b> ... ..	Indian Ports ... ..	1
April 4	<b>Banffshire</b> ... ..	Australia ... ..	1
„ 6	<b>Darro...</b> ... ..	Buenos Ayres ... ..	1
May 15	<b>Egba</b> ... ..	West Coast Africa ... ..	1
„ 16	<b>Montclare</b> ... ..	Montreal ... ..	1
July 6	<b>Diplomat</b> ... ..	Calcutta ... ..	1
„ 10	<b>Montclare</b> ... ..	Montreal ... ..	1
„ 20	<b>Automedon</b> ... ..	Singapore ... ..	1
„ 28	<b>Tasso</b> ... ..	Alexandria ... ..	1
Sept. 1	<b>Clan MacNab</b> ... ..	Australia ... ..	1
„ 3	<b>Massilia</b> ... ..	Bombay ... ..	1
„ 3	<b>Amatonga</b> ... ..	Rangoon ... ..	1
„ 5	<b>Orita</b> ... ..	Coronel ... ..	1
„ 18	<b>Montroyal</b> ... ..	Quebec ... ..	1
„ 28	<b>Carmania</b> ... ..	New York ... ..	1 ?
Oct. 15	<b>Tasso</b> ... ..	Alexandria ... ..	1 ?
Nov. 3	<b>Darro...</b> ... ..	River Plate ... ..	2
„ 4	<b>Orcoma</b> ... ..	Peru ... ..	1 ?
„ 16	<b>Caronia</b> ... ..	New York ... ..	1
Dec. 16	<b>Pegu</b> ... ..	Rangoon ... ..	1
„ 28	<b>Nerbudda</b> ... ..	Cairns ... ..	1

## PNEUMONIA.

Jan. 8	<b>Kansas</b> ... ..	— ... ..	1
„ 19	<b>City of Cairo</b> ... ..	Karachi ... ..	1
„ 21	<b>Clan Ross</b> ... ..	Indian Ports ... ..	1 ?
Feb 16	<b>Baltic...</b> ... ..	New York ... ..	1

Rating.	How dealt with.	
Q.M. ... ..	Landed New Orleans.	
Native seaman ...	Landed Gibraltar.	
Native seaman ...	Landed Glasgow.	
Native seaman ...	Admitted to Walton Institution, Liverpool.	
Passenger ... ..	Proceeded home.	
Labourer ... ..	Died during voyage.	
Norwegian deport ...	Admitted to City Hospital, Fazakerley, Liverpool.	
The Serang ... ..	Returned to India on board s.s. "Inventor," as a D.B.S.	
Deport ... ..	Proceeded home.	
Passenger ... ..	Died and buried at sea.	
Passenger ... ..	Proceeded to Hull.	
Native fireman ...	Landed Sydney.	
Native fireman ...	Landed Glasgow.	
Native seaman ...	Admitted to Tranmere Infirmary.	
Passenger ... ..	En route for Lithuania.	
Passenger ... ..	Proceeded to Manchester.	
Passenger ... ..	Proceeded to Birmingham.	
Steward ... ..	Landed Malta.	
Portuguese passengers ... ..	Landed Lisbon.	
Cook ... ..	Proceeded to his home in Birkenhead.	
Deport ... ..	Proceeded to Barrow.	
Passenger ... ..	Died at Rangoon.	
Native ... ..	Admitted to Northern Hospital, Liverpool.	
Lascar ... ..	Admitted to Mill Road Infirmary.	
Native fireman ...	Admitted to Brownlow Hill Infirmary.	
Native seaman ...	Admitted to Birkenhead Borough Hospital.	
Fireman ... ..	Admitted to Northern Hospital.	

## PNEUMONIA—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Feb. 23	<b>Castalia</b> ... ..	Bombay ... ..	1
„ 23	<b>Caronia</b> ... ..	New York ... ..	1
Mar. 6	<b>Antinous</b> ... ..	Mobile ... ..	1
„ 9	<b>Stanley Hall</b> ... ..	East Coast Africa ... ..	2
„ 18	<b>Defender</b> ... ..	Calcutta ... ..	1 ?
April 3	<b>City of Exeter</b> ... ..	Bombay ... ..	1
„ 7	<b>Scindia</b> ... ..	Bombay ... ..	1
„ 16	<b>City of Paris</b> ... ..	Karachi ... ..	1
„ 23	<b>Defender</b> ... ..	Calcutta ... ..	1
„ 25	<b>Montrose</b> ... ..	St. John ... ..	1
May 1	<b>Hildebrand</b> ... ..	Manaos ... ..	1
„ 11	<b>Baltic...</b> ... ..	New York ... ..	1
„ 18	<b>Canopic</b> ... ..	New York ... ..	1
„ 18	<b>Arica</b> ... ..	Italy ... ..	1
June 12	<b>Montclare</b> ... ..	Montreal ... ..	1
July 3	<b>Montcalm</b> ... ..	Quebec ... ..	1
„ 8	<b>Alban</b> ... ..	New York ... ..	1
Aug. 3	<b>Cedric</b> ... ..	New York ... ..	1
„ 17	<b>King David</b> ... ..	Rosario ... ..	1
„ 17	<b>Biafra</b> ... ..	Lagos ... ..	2
„ 24	<b>Darro</b> ... ..	Buenos Ayres ... ..	1 ?
Sept. 4	<b>Samaria</b> ... ..	Boston ... ..	1
„ 17	<b>Clan Urquhart</b> ... ..	Malabar Coast ... ..	1
„ 28	<b>Cedric</b> ... ..	New York ... ..	1
Oct. 6	<b>Onitsha</b> ... ..	Lagos ... ..	1
„ 13	<b>City of Manchester</b> ... ..	Karachi ... ..	2
„ 13	<b>Musician</b> ... ..	Calcutta ... ..	1
„ 30	<b>City of Christiania</b> ... ..	Calcutta ... ..	1
Nov. 13	<b>Scythia</b> ... ..	New York ... ..	1
„ 16	<b>Caronia</b> ... ..	New York ... ..	1
„ 23	<b>Ortega</b> ... ..	West Coast South America	1
„ 27	<b>Montclare</b> ... ..	Montreal ... ..	1
Dec. 10	<b>Egret</b> ... ..	Antwerp ... ..	1
„ 21	<b>Celtic</b> ... ..	New York ... ..	1
„ 29	<b>Wayfarer</b> ... ..	Mombasa ... ..	1 ?



Rating.	How dealt with.	
Waiter	...	...
Waiter	...	...
Wiper	...	...
Native seaman	...	...
—	...	...
Passenger	...	...
Native fireman	...	...
Serang	...	...
Native trimmer	...	...
Passenger	...	...
Cabin-boy	...	...
Fireman	...	...
Seaman	...	...
Seaman	...	...
Passenger	...	...
Passenger	...	...
Chief Engineer	...	...
Bellboy	...	...
Fireman	...	...
Khroo boys	...	...
Passenger	...	...
Seaman	...	...
Deck tindal	...	...
D.B.S.	...	...
Native fireman	...	...
Native fireman	...	...
Seaman	...	...
Native fireman	...	...
—	...	...
Trimmer	...	...
Steward	...	...
Passenger	...	...
Crew	...	...
Trimmer	...	...
Fireman	...	...

## DYSENTERY.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Jan. 19	<b>City of Cairo</b> ... ..	Karachi ... ..	1
Feb. 23	<b>Castalia</b> ... ..	Bombay ... ..	1
April 1	<b>Florentino</b> ... ..	Genoa ... ..	1
„ 4	<b>Gloucestershire</b> ... ..	Rangoon ... ..	1 ?
„ 14	<b>Alcinous</b> ... ..	Java ... ..	1
„ 21	<b>Oxfordshire</b> ... ..	Rangoon ... ..	1
„ 29	<b>Perseus</b> ... ..	Batavia ... ..	5
May 4	<b>Graig</b> ... ..	Black Sea Ports ... ..	1
„ 4	<b>Ivan Gorthan</b> ... ..	Senegal ... ..	1
„ 18	<b>City of Poona</b> ... ..	Karachi ... ..	1
„ 20	<b>Speaker</b> ... ..	West Indies ... ..	1
June 9	<b>Siptah</b> ... ..	Alexandria ... ..	1
July 12	<b>Nigeristan</b> ... ..	via Glasgow ... ..	1
„ 10	<b>Elysia</b> ... ..	Bombay ... ..	1
Sept. 3	<b>Clan McNab</b> ... ..	Australia ... ..	1
„ 12	<b>Adda</b> ... ..	West Coast Africa ... ..	2
„ 25	<b>Castalia</b> ... ..	Bombay ... ..	1
Oct. 15	<b>City of Chester</b> ... ..	Bombay ... ..	2
„ 19	<b>Mardinian</b> ... ..	Alexandria ... ..	1
Nov. 9	<b>Adda</b> ... ..	West Coast Africa ... ..	1
„ 18	<b>City of Canterbury</b> ... ..	Bombay ... ..	1
Dec. 30	<b>Hans Hemsoth</b> ... ..	Indian Ports ... ..	1

## ERYSIPELAS.

Jan. 27	<b>Killarney</b> ... ..	Dublin ... ..	1
April 6	<b>Cedric</b> ... ..	New York ... ..	1
„ 30	<b>Montroyal</b> ... ..	St. John ... ..	1
May 22	<b>Montrose</b> ... ..	Montreal ... ..	1

Rating.			How dealt with.
D.B.S.	...	...	Proceeded to Glasgow.
Native Greaser	...	...	Died and buried at sea.
Apprentice	...	...	Landed Genoa.
Steward	...	...	Reported from the City.
Wireless worker	...	...	Died at sea.
Native Cook	...	...	Removed Birkenhead Borough Hospital.
Crew	...	...	4 landed at Kobe, and 1 transferred to S.S. "Idomeneus," and returned to London.
Captain	...	...	Occurred on voyage, well on arrival.
Seaman	...	...	Landed Las Palmas.
Native foreman	...	...	Died and buried at sea.
Fireman	...	...	Removed to Hospital at St. Kitts.
Fireman	...	...	Landed Algiers.
Cook	...	...	Landed Port Said.
Passenger	...	...	Landed Port Said.
Native Fireman	...	...	Died.
Fourth Officer and Steward	...	...	Occurred during voyage.
Stewardess	.....	...	Occurred during voyage.
Crew	...	...	Left in hospital in Bombay.
Captain	...	...	Occurred during the voyage.
Passenger	...	...	Proceeded to Birmingham.
Native greaser	...	...	Occurred during voyage.
Fireman	...	...	Admitted Tropical Ward, Royal Infirmary.
Steward	...	...	Admitted to City Hospital, Fazakerley.
D.B.S.	...	...	Recovered on arrival.
Bar-keeper	...	...	Admitted to City Hospital, Fazakerley.
Steward	...	...	Admitted to City Hospital, Fazakerley.



## ERYSIPELAS—Continued.

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Oct. 5	<b>Demerara</b> ... ..	La Plata ... ..	1
Dec. 14	<b>Montrose</b> ... ..	St. John ... ..	1

## MEASLES.

Feb. 21	<b>Montclare</b> ... ..	St. John ... ..	1
Mar. 7	<b>Orita</b> ... ..	West Coast South America	2
„ 16	<b>Aurania</b> ... ..	New York ... ..	1
„ 23	<b>Caronia</b> ... ..	New York ... ..	1
April 3	<b>City of Exeter</b> ... ..	Bombay ... ..	15
„ 6	<b>Montcalm</b> ... ..	St. John ... ..	2
„ 13	<b>Marloch</b> ... ..	St. John ... ..	2
„ 13	<b>Canopic</b> ... ..	New York ... ..	1
„ 14	<b>Knight Templar</b> ... ..	Java ... ..	1
„ 16	<b>City of Paris</b> ... ..	Karachi ... ..	2
„ 18	<b>Montclare</b> ... ..	St. John ... ..	1
„ 29	<b>Scythia</b> ... ..	New York ... ..	2
May 11	<b>Carmania</b> ... ..	New York ... ..	1
„ 25	<b>Celtic</b> ... ..	New York ... ..	1
„ 25	<b>Lancastria</b> ... ..	Montreal ... ..	1
June 1	<b>Melford Hall</b> ... ..	Antwerp ... ..	1
„ 8	<b>Megantic</b> ... ..	Montreal ... ..	1
„ 8	<b>Cedric</b> ... ..	New York ... ..	1
„ 12	<b>Elder Branch</b> ... ..	West Coast America ...	1
„ 15	<b>Baltic...</b> ... ..	New York ... ..	2
„ 15	<b>Samaria</b> ... ..	Boston ... ..	1
„ 15	<b>City of Cairo</b> ... ..	Glasgow ... ..	1
„ 16	<b>Darro...</b> ... ..	Buenos Ayres ... ..	4
„ 26	<b>Montroyal</b> ... ..	Quebec ... ..	1
July 3	<b>Montcalm</b> ... ..	Quebec ... ..	3
„ 8	<b>Cedric</b> ... ..	New York ... ..	1

Rating.	How dealt with.
Passenger ... ..	Landed Vigo.
Passenger ... ..	Admitted to City Hospital, Fazakerley.
Passenger ... ..	Landed Partridge Island.
Passengers ... ..	Landed Havana, on outward trip.
Passenger ... ..	Proceeded home on arrival.
Passenger ... ..	Landed Hoffman Island.
Passengers ... ..	11 children removed to Port Sanitary Hospital, New Ferry, with parents as contacts, 4 other children suffered on voyage, well on arrival.
Passengers ... ..	Landed Partridge Island.
Passengers ... ..	Landed Partridge Island.
Steward ... ..	Admitted to City Hospital, Fazakerley.
Chief Officer's Wife	Admitted to City Hospital, Fazakerley.
Passengers ... ..	Landed Bombay, on outward voyage.
Passenger ... ..	Admitted City Hospital, Fazakerley.
Passengers ... ..	Occurred on outward passage, landed New York.
Passenger ... ..	Landed Queenstown.
Passenger ... ..	Landed Queenstown.
Passenger ... ..	Landed Quebec.
Q.M. ... ..	Admitted to City Hospital, Grafton Street.
Passenger ... ..	Admitted to City Hospital, Grafton Street.
Passenger ... ..	Admitted to City Hospital, Grafton Street.
Passenger ... ..	Convalescent on arrival.
Third Officer ... ..	Landed Glasgow.
Children ... ..	Landed Queenstown.
Greaser ... ..	Landed Boston.
Passenger ... ..	Convalescent on arrival.
Second Officer ... ..	Removed to Port Sanitary Hospital, New Ferry.
Passengers ... ..	Landed Leixoes.
Passenger ... ..	Occurred during voyage.
Passengers ... ..	Landed Quebec, on outward passage.
Passenger ... ..	Landed New York.

**MEASLES—Continued.**

Date, 1925.	Name of Vessel.	Where from.	No. of Cases.
Aug. 22	<b>Ortega</b> ...     ...     ...	Coronel     ...     ...     ...	1
Oct. 17	<b>Montroyal</b> ...     ...     ...	Quebec     ...     ...     ...	1
„ 31	<b>Duendes</b> ...     ...     ...	River Plate     ...     ...     ...	1
Nov. 9	<b>Montnairn</b> ...     ...     ...	Quebec     ...     ...     ...	1
„ 25	<b>Cedric</b> ...     ...     ...	New York     ...     ...     ...	1
Dec. 4	<b>Aurania</b> ...     ...     ...	New York     ...     ...     ...	2
„ 8	<b>Canada</b> ...     ...     ...	Montreal     ...     ...     ...	1
„ 9	<b>Warwickshire</b> ...     ...     ...	Rangoon     ...     ...     ...	1

**MENINGITIS.**

Nov. 21	<b>Tydeus</b> ...     ...     ...	Manilla     ...     ...     ...	1
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**LEPROSY.**

May 1	<b>Hildebrand</b> ...     ...     ...	Manaos     ...     ...     ...	1
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**ENCEPHALITIS LETHARGICA.**

May 27	<b>Kilmallee</b> ...     ...     ...	Sydney     ...     ...     ...	1 ?
Oct. 6	<b>Merchant Prince</b> ...     ...     ...	Alexandria     ...     ...     ...	1

**YELLOW FEVER.**

Oct. 5	<b>Akabo</b> ...     ...     ...	West Coast Africa     ...     ...     ...	1
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Rating.	How dealt with.	
Passenger ...	...	Landed Vigo.
Passenger ...	...	Landed Quebec.
Seaman ...	...	Admitted to City Hospital. Fazakerley.
Passenger ...	...	Landed Quebec.
Passenger ...	...	Proceeded to Birkenhead.
Passengers ...	...	Landed Quebec.
Passenger ...	...	Proceeded home.
Passenger ...	...	Landed London
Fireman ...	...	Died and buried at sea.
Passenger ...	...	Landed Leixoes.
Seaman ...	...	Admitted to City Hospital, Fazakerley, proved not infectious.
Fireman ...	...	Landed Alexandria.
Chief Engineer ...	...	Landed and died at Lagos.

### The Hygiene of Crew's Quarters.

The position in which crew space is situated in a ship affects very considerably the comfort, health and safety of the men. It is easy to secure, under service conditions, an abundance of fresh air and natural light when the quarters are in houses above deck or in the poop. But it is difficult to obtain satisfactory conditions in forecastles situated in the extreme fore-end of a ship beneath an anchor deck, because here the straining of the ship is liable to lead to leaky decks overhead and to defective and leaky portlights, ventilators must frequently be closed on account of stress of weather and effluvia are liable to arise from chain lockers *via* defective hawse pipes.

In an increasing number of ships crews' quarters are now situated aft or amidships. The modern tendency to "cruiser sterns" not only gives increased accommodation but renders it possible to make better use of the space available. Many shipowners provide crew accommodation greatly in excess of the bare legal requirements. Four or even two berth cabins for the men, separate mess-rooms, slipper and shower baths, wash-houses fitted with lavatory basins supplied with hot and cold fresh water, separate pedestal w.c.'s with constant flush from sanitary tanks, and drying rooms for clothes and oilskins are frequently provided.

At one time progress along these lines was arrested by an apparent lack of appreciation, on the part of the men, of the amenities provided, and this is still used as an excuse by the less progressive shipowners. But crews now undoubtedly appreciate good accommodation, as shown by the way men stick to a good ship voyage after voyage. It is now rare to find any abuse of the extra comforts provided. Although the table on page 65 shows that 90 per cent. of the defects reported on vessels in the docks were due to lack of cleanliness, the degree of uncleanness is not usually serious, and the men when paid off do not leave their quarters in the filthy condition which formerly was not infrequently found. In all cases the quarters are thoroughly cleansed before the ship sails again.

### Vermin.

There is no reduction in the number of cases in which quarters are reported to be vermin-infested, but this is not because infestation with vermin is more common than formerly, but because the majority of the

men will not now tolerate these conditions and wish to have them remedied as soon as possible.

The complete disinfestation of quarters is a difficult matter. There are any number of contact poisons for bugs, but the difficulty always is to apply the poison to the bugs which conceal themselves in any cracks or crevices in dark out-of-the-way places, behind match-boardings and in the hollow stanchions of bunks.

Fumigation is more successful than spraying with insecticide solutions, because of the greater power of penetration. In Liverpool sulphur dioxide (5 lbs. per 1,000 cubic feet with an exposure for twelve hours) and hydrocyanic acid gas (0·5 per cent., with an exposure of six hours) have both been used with success. But even when a gaseous fumigant is used dead spaces must be opened up as far as possible, blankets or bedding must be hung up and freely exposed to the gas and bunks must be dismantled and the tubes blown through with steam or be dipped into boiling water.

As with rats, so with bugs, the best method of eradication is to build against the pest. Match-boardings should be eliminated as far as possible, the ends of tubular stanchions of bunks should be plugged, and all corners and angles in the quarters should as far as possible be rounded off. It must be borne in mind, however, that bed bugs are always introduced in the first place by a human host, either on his person or in his clothing.

### Canal Boats.

The Port sanitary inspectors have been appointed canal boat inspectors under the Canal Boats Act, 1877 and 1884. This is rendered necessary by the large number of canal boats which are to be found lying in the Liverpool docks. By rotation, one inspector devotes one whole day per week for a period of five months at a time to this work, as it has been found that in this way it is easier to follow up any boat that may be defective. These boats are for the most part kept in very good repair.

Nine hundred and seven boats were inspected during the year, of which 44 were found to have some condition contravening the regulations.



## INSPECTION OF SHIPPING.

Year 1925.

TABLE 10.

Nationality.		Visits.	Re-visits.	Total.
British ...	...	4,782	2,530	7,312
Norwegian	...	206	106	312
Swedish...	...	150	65	215
Spanish...	...	108	74	182
Danish ...	...	104	47	151
Japanese	...	39	33	72
Italian ...	...	13	12	25
Portugese	...	1	2	3
Russian ...	...	21	22	43
French ...	...	42	24	66
Brazilian	...	10	9	19
Dutch ...	...	65	23	88
Greek ...	...	17	23	40
American	...	139	73	212
Belgian	...	17	16	33
German ...	...	82	27	109
Polish ...	...	4	—	4
Latvian	...	9	7	16
Finnish ...	...	25	12	37
Esthonian	...	1	2	3
Hungarian	...	1	—	1
Total ...		5,836	3,107	8,943



TABLE 12.

THE FOLLOWING TABLE SHOWS THE NUMBER AND NATIONALITIES OF THE VESSELS ON WHICH DEFECTS WERE DETECTED DURING THE YEAR 1925.

NATIONALITY.	Number of Ships.	Dirty Forecastles	Dirty Wash-houses, Store-houses, etc.	Foul Water Casks.	Foul Bilges.	Foul W.C's.	Accumulations of offensive refuse.	Gear stowed in Crew's Quarters	Damp Quarters.	Water lodging on top of Forepeak Tank.	Animals kept, causing nuisance	Leaky Decks overhead.	Defective Stoves.	Defective Bulkheads.	Defective Ports and Sky-lights.	Defective Ventilators.	Defective Flooring Boards	Defective Hatches and Lockers.	Defective Chain Pipes.	Defective Hose Pipes.	Defective W.C. Fittings.	Defective Soil Pipes.	Inadequate Ventilation.	Inadequate Lighting	Inadequate Drainage.	Bare Iron not Sheathed	W.C's deficient in Ventilation and situation bad.	Total number of Defects.	Total Remedied.
British ...	938	2701	109	...	...	681	16	5	7	4	2	104	52	11	155	15	...	15	...	10	16	4	2	1	3	...	...	3913	3799
Norwegian ...	14	24	3	...	...	2	8	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	38	38
Swedish ...	3	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	5	5
Spanish ...	17	37	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46	46
Italian ...	6	6	1	...	...	3	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	12
Greek ...	1	3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4
Belgian ...	2	4	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5
American ...	4	...	1	...	...	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	8
French ...	5	13	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	15
German ...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	2
Danish ...	2	3	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	10
Latvian ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Total ...	995	2797	114	...	...	707	32	5	7	4	2	104	54	11	155	15	...	15	...	10	18	4	2	1	4	...	...	4061	3945



## SUMMARY OF INSANITARY CONDITIONS.

TABLE 11.

Class of Vessels.	Number Inspected.	Number on which Nuisances were found.	Per cent.
FOREIGN—			
Steamers ... ..	4,298	872	20·28
Sailing ... ..	—	—	—
Total... ..	4,298	872	20·28
COASTWISE—			
Steamers ... ..	1,508	122	8·08
Sailing ... ..	30	1	3·33
Total... ..	1,538	123	7·99

Nationality.	Number Inspected.	Number on which Nuisances were found.
British ... ..	5,836	938
Foreign ... ..	3,107	57
	8,943	995

## Nuisances arising through

Defects of Original Construction. (a)	Per cent. of Total Defects.	Structural Defects through wear and tear. (b)	Per cent. of Total Defects.	Dirt, and other conditions prejudicial to health. (c)	Per cent. of Total Defects
7	·17	386	9·50	3,668	90·33

### Medical Examination of Aliens.

The following table gives the total number of aliens arriving in the Port of Liverpool during 1925 and the number in each of the categories under which alien passengers are classified by the Immigration Department of the Home Office :—

Total aliens	Transmigrants	Residents returning	In transit
21,613	2,908	293	1,304
Visitors of 6 months or less		Diplomats & persons on Foreign Govt. Missions.	Seamen
On holiday, tourists, &c.	On Business		
15,108	837	167	114
Seamen under Contract to join ships in British Waters.		Ministry of Labour Permits	Other Aliens
69		40	773

The Medical inspection of aliens is carried out by the assistant port Medical Officers. The object of inspection is to ascertain if any of the alien passengers are—

- (1) suffering from any disease likely to be a danger to the Public Health of this country ;
- (2) suffering from any disease or deformity likely to cause such aliens or their dependents to become a public charge.

Cases of the ordinary infectious diseases are reported to the Port Medical Officer by the ship surgeon or the captain on arrival of the vessel, whether the infected persons are aliens or not. In Liverpool there is little risk of importation of typhus, and a close scrutiny of transmigrants, in order to detect those who are infested with lice, is not necessary, as they practically all come from the United States or Canada, and are clean, healthy people.

No alien is allowed to take up employment in this country without a permit to do so from the Ministry of Labour, consequently it is not often that the medical inspector has to consider the earning capacity of an alien passenger. Certificates of rejection are therefore few. During 1925 medical certificates were issued in respect of ten aliens, in three cases on account of mental disease, in two for venereal disease, and in one each for pulmonary tuberculosis, typhoid fever, sleeping sickness, paralysis agitans and general debility.

Apart from issuing medical certificates the medical inspector is frequently able to advise the immigration officers that, while the state of health of an alien does not justify his rejection on medical grounds, his condition is such that it would be advisable to limit the duration of his stay in this country.

The medical inspectors and the immigration officers work in close co-operation and frequently consult as to how to deal with alien passengers where there are not sufficient grounds for their absolute rejection. This is not the least valuable part of the work, but cannot be represented by statistics.

The medical inspection is still carried out on board the ships, a most unsatisfactory procedure in the third-class sections. The provision of accommodation on shore has again been discussed, and there would appear to be some prospect of the provision of a medical inspection room at the north end of the new Customs examination rooms.

### **Verminous Persons.**

Elaborate precautions are taken by the United States Public Health Service to prevent the occurrence of Typhus Fever amongst emigrants from Central Europe to America. Special stations have been erected, through one or other of which all transmigrants must pass. Here, they are medically inspected, freed from vermin, and all their clothing disinfected. All second and third class passengers bound for the U.S.A., whether from the Continent or the British Isles, are inspected by a Medical Officer of the American Public Health Department, immediately before sailing, and if any are found to be in a verminous condition, they are sent to the City hospitals, Netherfield Road, or Sparrow Hall, where suitable accommodation is available for the



destruction of vermin in the clothing and belongings of each person. The cost of the disinfection is defrayed by the shipping company concerned.

### **Supervision of Food Importations.**

Prior to June 1st, 1925, imported foods were dealt with under the Public Health (Unsound Food) Regulations, and the Foreign Meat Regulations, but since that date the duties involved have been carried out under the Public Health (Imported Food) Regulations, 1925.

These latter regulations have greatly simplified the work of meat inspection,\* and the schedules relating to the various types of meat prohibited or conditionally admissible into the country have proved most useful.

A staff of seven qualified food inspectors carry out the work of the inspection of imported foodstuffs. The procedure followed is, necessarily, one of sampling in the first instance, followed, when the condition of the samples demand it, by a more detailed examination of the whole consignment.

The Inspectors, from experience, know when unsatisfactory conditions are likely to be found, and many sources of information are open to them as they move about the docks. As a consequence the inspection and control of imported food is very complete, and is carried on without serious delay or inconvenience to the trade.

Whilst much unsound food is destroyed, the great bulk is, whenever possible, released under suitable guarantees for various industrial purposes, such as poultry foods, size making, fat extraction, and manufacturing, great care being taken to prevent their being marketed in any form for human consumption, only firms approved of by the Medical Officer of Health being allowed to receive this material.

Apart from damage to meat cargoes from faulty refrigeration, &c., during the voyage, damage also arises to large quantities of grain through sweating, sea or bilge water, fire, &c., and this material also is utilised whenever possible for industrial purposes.

A list of firms having suitable premises and equipment for dealing with unsound foodstuffs has been drawn up by the Health Department

and circulated to the traders concerned. This list is added to from time to time.

On April 1st the Public Health (Meat) Regulations, 1924, came into force, and under Part 6 the transport and handling of meat is dealt with. Under these Regulations it is required that:—

“All vehicles (which include railway or other vans or wagons, ships, or barges) used for the transport of meat, and receptacles in which meat is placed, must be kept clean, and if open at the top, back or sides, or if other articles are being carried in the same vehicle, the meat must be adequately protected by a clean cloth or other suitable material.”

“No live animals shall be carried in the vehicle at the same time as meat.”

#### MEAT CARRIERS AND HANDLING.

“Every person, while engaged in the handling or transport of meat, shall not permit any part of the meat to come into contact with the ground, and all precautions against contamination must be taken.

Every person who employs a person to carry meat in or about a market or other place in which meat is sold by wholesale, or in or about any place wholly or mainly used for the storage of meat before it is distributed to retailers, shall cause such person while so occupied to wear, and every person while so occupied shall wear, a clean and washable head covering and overall.”

Some further regulations, entitled the Public Health (Imported Milk) Regulations, 1926, are at present in draft form and will probably come into operation on the 1st January, 1927. They provide that no person shall receive imported milk (not including condensed or dried milk) from any place outside the British Isles unless he has previously been registered by the Sanitary Authority into whose district the milk is being imported, and all milk so received shall be in such a condition that on a sample being taken by the Sanitary Authority it shall be found to contain not more than 100,000 bacteria per cubic centimetre, and to be free from tubercle bacilli.

Under these Regulations powers are given to Sanitary Authorities enabling them, if they consider it necessary, to remove the names of offending importers from the register.



Under the Public Health (Preservatives in Food) Regulations, 1925, which come into operation on the 1st January, 1927, no person shall import into England or Wales any article of food intended for human consumption which contains certain prohibited preservatives or colouring matters.

Under the recently issued Public Health (Imported Food) Regulations, in addition to certain prohibited meats, there are meats which are conditionally admissible, i.e., those requiring an official certificate to be attached to the container. These include lard, dripping, edible tallow and similar rendered fats.

During the past year, several export notices were served on firms chiefly in connection with imports of lard compound which upon analysis was found to contain hog fat. The large imports of lard from China previously received at this port were temporarily suspended, but an "official certificate" has now been recognised for lard imports from Hong Kong.

It is some years since any large consignments of Australian meat arrived infected with worm nodules (*Onchocerca Gibsoni*), but during 1925 several small consignments of Australian briskets and buttocks of beef, originally intended for Malta, were landed at Liverpool. They were detained for examination in cold store, and a considerable percentage was found to contain nodules.

Towards the end of the year the s.s. "Admiral Codrington" arrived from South America via Genoa with a cargo of meat, and upon examination a large quantity was found to be in a decomposing and mouldy condition, arrangements were therefore made, under proper guarantees for it to be dealt with by various industrial and manure manufacturing works. Other portions were utilised for soap and grease manufacture under supervision of the local authority concerned. The work of trimming and passing the remaining quarters had not been completed during the period under review.

A report of an occurrence of typhoid fever in New York State—through the consumption of American Blue Point oysters—warranted the examination of supplies of this shellfish arriving here. The City Bacteriologist reported that none of the samples submitted contained either typhoid or dysentery organisms.



The importation of fruits during 1925 has shown a very high figure, but the examinations required have nevertheless been carried out with the customary thoroughness.

Many new varieties of fruit have arrived from various parts of the world. A few years ago, fruit arrived at certain seasons according to the locality from which it was imported. It is now possible, however, to ship these fruits at any time of the year in specially constructed vessels which are being built to cope with this trade.

Large consignments of oranges, pears, plums, grapes, etc., have come from South Africa in suitable clean packages, and rarely require attention.

Australia and New Zealand have also sent consignments of apples, pears and grapes, in addition to currants and sultanas, and with the exception of one or two small lots of apples, their general condition has been good and free from "Brown Heart"—a disease which was somewhat prevalent a few years ago. Various kinds of fruits have also been imported from the United States, Jamaica, Canary Isles, etc., etc.

Spanish consignments required supervision, oranges being badly affected with frost, and Almeria grapes arrived in a very mouldy condition, several shiploads being closely examined.

With regard to the presence of arsenic on fruit, this was found on the surface of certain apples and pears, and upon investigation it was ascertained to be due to spraying with a view to the destruction of the Codlin Moth. This spraying gives rise to a deposit which in some cases contained a small amount of arsenious oxide. Arrangements were immediately made to sample all consignments of apples and pears arriving in the port. These were examined for arsenic by the City Analyst, whose reports showed much variation as to quantity, but that it was found only on the skin of the fruit at the stem and calyx ends, and in no case was it in harmful amounts. In many of the samples examined, arsenic was not present.

In this connection it may be mentioned that several local firms had notices printed advising the public to peel the fruit, and in this way have done something to allay the fears of their customers. Steps have been taken by the Ministry of Health, in conjunction with the foreign

Governments concerned, to mitigate the amount of contamination in future consignments. In fact, already several lots of machine-wiped apples have been landed.

None of the results of the bacteriological examination of shellfish or canned foodstuffs call for any special comment. Specimens of ox livers were examined for tuberculosis and proved negative.

The following table gives the particulars of samples of foodstuffs sent to the City Analyst and Bacteriologist during the year 1925 :—

TABLE 13.

CITY ANALYST.					CITY BACTERIOLOGIST.				
Canned Boiled Beef	...			2	Oysters...	...	...	...	1
„ Corned Mutton				1	Canned Loganberries			...	1
„ Ox Tongue	...			1	„ Boiled Beef			...	1
„ Prawns	...	...		1	„ Skimmed Milk			...	1
„ Loganberries	...			1	Pieces of Ox Liver	...		...	2
„ Pines	...	...		2	Wool	...	...	...	125
„ Peas	...	...		1					
„ Cream	...	...		1					
„ Haricot Coupes				1					
BRINE ;—									
Ox Tongue	...	...		1					
Pig's Tongue	...	...		9					
Lard	...	...	...	2					
Butter	...	..	...	1					
Lard Compound	...	...		8					
Vegetable Compound			...	6					
„ Fat	...	...		1					
„ Grease	...	...		1					
Sugar	...	...	...	2					
Ham	...	...	...	1					
Raisins...	...	...	...	2					
Apples	...	...	...	8					

During the year, 125 samples of treated and untreated wool, hair, etc., were examined from the Government wool disinfecting station ; only one of the untreated samples shewed the presence of anthrax bacilli. All the treated samples were sterile.

During the year, 6,947 rats from ships, quays, etc., were examined, and no evidence of the bacillus of plague was found in any of them.

## Poisoning by Carbonic Acid Gas from a Cargo of Cheese in the S.S. "Suffolk."

The s.s. "Suffolk" (4,592 tons) from New Zealand, via Panama, arrived at Glasgow on February 26th, 1926, with a cargo of frozen meat, tallow, hemp, and cheese, for Glasgow, Liverpool, Manchester, Avonmouth and London. No. 3 hold was full of cheese, and the shelter deck, 'tween deck, and part of lower hold were discharged at Glasgow from February 27th to March 2nd, 1926, without any ill-effects on the workmen. The hold was closed on the evening of March 2nd, with the exception of one section of hatches, and remained closed till March 8th, the vessel arriving in Liverpool (Brocklebank Dock) on March 5th.

When No. 3 hold was opened out about 2 p.m. on March 8th, the second officer descended with a foreman stevedore to point out the cheese to be discharged at Liverpool. Almost immediately on reaching the lower hold the second officer became unconscious, and on the alarm being raised, the chief officer went to his assistance, but he also collapsed. Both men were rescued by others wearing smoke helmets. The chief officer speedily recovered, but the second officer was taken to Bootle Borough Hospital, where he was quickly restored. The symptoms were those of acute carbon dioxide gas poisoning.

On enquiry, later, the chief officer stated that he had seen a similar case of poisoning seven years ago in Wellington, N.Z. But it was necessary to explain why the men who worked in No. 3 hold in Glasgow were unaffected, while the second officer was immediately rendered unconscious on entering the lower hold in Liverpool.

The temperature of the hold containing the cheese was kept at 45 degrees Fahrenheit during the voyage, and there was no ventilation.

When the hold was opened, refrigeration was discontinued, because, after opening condensation of atmospheric moisture occurs, and so dampness of cargo.

The temperature, therefore, of No. 3 hold rose from 45 degrees F. to from 50 to 55 degrees F. between the time the hold was opened in Glasgow and the time the second officer descended at Liverpool.



It appears probable that there was a considerable concentration of the heavy carbon dioxide gas in the lowest parts of No. 3 hold, and that as the temperature rose this gas expanded, the evolution of the gas from the cheese may also have increased, so that there came to be a high concentration of carbon dioxide gas on the top of the crates of cheese. Up to March 2nd not much of the carbonic acid gas had risen, but while the hold was almost closed during the period March 2nd to March 8th, and refrigeration was not started again, a poisonous concentration developed owing to continued accumulation and expansion of the carbonic acid gas in the lowest parts. This may be the reason that the men were able to work in the hold in Glasgow and that the second officer was poisoned in the same hold a week later. The cheese was in a perfectly sound condition.

It was suggested that once refrigeration was stopped it would be advisable to ventilate freely until all cargo likely to generate carbonic acid gas was discharged.

The Company have therefore given instructions to ventilate holds containing cheese before commencing discharge of cargo.

TABLE 14.

SHOWING THE NUMBERS OF CATTLE, SHEEP, AND SWINE  
EXPORTED FROM IRELAND TO LIVERPOOL DURING THE  
YEAR 1925, AND SHOWING THE PORTS IN IRELAND AT  
WHICH THE ANIMALS WERE SHIPPED.

	Cattle.	Sheep.	Swine.
Ballina ... ..	261	8,765	1,147
Belfast ... ..	911	10,650	7
Cork ... ..	29,017	8,621	2,798
Drogheda ... ..	20,361	35,463	382
Dublin ... ..	69,508	101,694	6,459
Dundalk ... ..	6,228	35,559	328
Londonderry ... ..	3,269	10,856	116
Newry ... ..	716	11,124	40
Sligo ... ..	36	8,247	2,719
Waterford ... ..	28,289	21,948	2,833
Limerick ... ..	250	—	—
Total ... ..	158,846	252,927	16,829

TABLE 15.

SHOWING THE TOTAL NUMBERS OF THE SEVERAL KINDS  
OF CATTLE, SHEEP AND PIGS EXPORTED FROM  
IRELAND TO LIVERPOOL DURING THE YEAR 1925.

CATTLE.	No.	SHEEP.	No.
Fat ... ..	120,836	Fat ... ..	97,371
Stores (for fattening)	32,443	Stores ... ..	202
Milch Cows ... ..	286	Lambs ... ..	155,354
Springers ... ..	376		
Calves ... ..	4,905	Total Sheep ...	252,927
Total Cattle ...	158,846		
		PIGS.	
		Fat ... ..	16,671
		Stores ... ..	158
		Total Swine ...	16,829

TABLE 16.

STATEMENT SHOWING THE NUMBER OF LIVE CATTLE, &c., LANDED AND SLAUGHTERED AT THE FOREIGN ANIMALS WHARF (BIRKENHEAD, ALFRED AND WALLASEY LAIRAGES) DURING THE YEARS 1912 TO 1925 INCLUSIVE.

Year.	LANDED.				SLAUGHTERED.			
	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.
1912 {	19,167 143,114	— 819	— 69,016	14,251 335,291	19,167 140,854	— 810	— 67,586	14,251 334,880
1913 {	3,482 351,276	— 930	— 104,274	— 449,344	3,482 90,857	— 174	— 15,498	— 131,241
1914 {	— 333,115	— 248	— 65,242	1,707 357,528	— 171,716	— 121	— 16,876	1,707 158,562
1915	235,620	—	60,791	288,260	100,560	—	2,353	94,237
1916	270,117	2	84,509	377,753	137,346	—	2,210	134,794
1917	257,781	14	48,013	424,992	127,436	4	655	171,720
1918	178,898	17	28,723	446,039	102,174	—	409	219,915
1919	252,790	977	29,052	362,137	175,302	—	591	241,247
1920	247,015	6,230	31,050	341,350	110,688	9	569	164,669
1921 {	195,785 49,434	— —	19,224 —	325,982 6,706	63,178 49,224	— —	2,766 —	165,963 6,706
1922 {	262,601 38,648	8 1	31,257 —	418,604 —	63,002 38,648	1 1	515 —	153,381 —
1923 {	166,994 39,690	7 —	77,536 —	194,296 7,003	50,432 37,482	— —	4,886 —	90,736 7,003
1924 {	217,176 417 52,193	— — —	58,690 888 —	358,310 4,568 4,252	54,572 37 42,324	— — —	4,985 3 —	134,207 627 4,252
1925 {	159,638 218 43,673	— — —	16,745 366 —	— 253,617 3,919	41,332 32 35,567	— — —	883 2 —	106,08 349 —

Heavy type represents Irish.

† Isle of Man.

‡ Foreign.



TABLE 17.

SHOWING THE VALUES OF THE IMPORTS OF MEATS (EXCEPT POULTRY AND GAME) INTO THE PORT OF LIVERPOOL DURING THE YEARS 1916 to 1924.

Description.	Years.									
	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	
Bacon ... ..	£ 15,827,493	£ 18,181,829	£ 36,832,954	£ 38,708,464	£ 21,746,024	£ 13,472,791	£ 8,819,177	£ 8,506,723	£ 7,080,117	
Beef, fresh and refrigerated ...	8,880,454	8,297,884	16,470,701	11,916,393	17,754,543	13,430,866	8,016,721	8,561,258	7,771,561	
Beef, salted... ..	67,426	86,563	66,238	180,015	—	—	—	—	—	
Hams ... ..	4,114,569	3,983,618	6,843,531	7,404,202	109,461	4,225,544	5,148,303	5,043,264	4,547,822	
Mutton, fresh and refrigerated ...	2,751,913	2,116,322	2,128,352	2,219,436	5,702,678	5,842,010	4,262,439	4,879,930	3,337,957	
Pork, fresh and refrigerated ...	966,652	469,406	424,056	310,654	1,639,590	920,772	419,018	948,484	555,610	
Pork, salted ... ..	85,791	56,604	17,544	100,808		—	—	—	—	
Rabbits ... ..	168,667	180,106	123,468	143,983	342,821	95,873	65,563	77,096	33,092	
Unenumerated, fresh, refrigerated and salted ... ..	1,101,843	1,214,946	930,022	2,588,273	973,877	678,012	581,442	419,381	403,506	
Preserved, otherwise than by salting ... ..	3,663,457	6,160,807	9,443,132	13,012,291	2,638,774	1,253,263		1,541,595	—	
Totals ... ..	£37,628,265	£40,748,085	£73,279,998	£76,584,519	£50,907,768	£39,919,131	£27,312,663	£29,977,731	23,729,665	

TABLE 18.  
SHOWING THE QUANTITY OF UNSOUND MEATS  
SUPERVISED AND UTILISED  
DURING THE YEARS 1912 TO 1925.

Year.	Beef.				Mutton.				Pork.			
	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.
1912 .....	684	8	3	0	475	12	1	2	9	12	3	18
1913 .....	88	0	3	12	76	16	0	13	1	4	2	15
1914 .....	441	5	2	0	47	5	2	2	1	5	0	2
1915 .....	221	7	0	10	23	14	0	4	2	8	3	21
1916 .....	103	16	0	13	4	10	0	24	1	14	1	16
1917 .....	510	9	3	14	24	11	3	20	0	14	3	16
1918 .....	281	9	0	25	55	15	0	22	4	14	1	4
1919 .....	150	12	3	22	45	18	0	16	—	8	0	8
1920 .....	30	8	2	23	95	8	0	6	—	16	0	16
1921 .....	25	14	2	19	8	13	0	8	1	9	2	22
1922 .....	44	18	1	19	10	9	1	8	2	12	1	18
1923 .....	28	5	3	10	33	9	3	31	—	16	1	9
1924 .....	40	14	1	8	6	17	1	13	1	6	3	13
1925 .....	1,184	15	1	5	7	10	1	1	—	4	1	15

TABLE 19.

SHOWING THE QUANTITY OF UNSOUND OFFAL  
SUPERVISED AND UTILISED  
DURING THE YEARS 1912 TO 1925.

Year.	Beef.	Mutton.	Pork.	Veal.
1912.....	68,272 pieces.	57,163 pieces.	8,229 pieces.	196 pieces.
1913.....	28,055   ,,	66,705   ,,	12,946   ,,	64   ,,
1914.....	36,561   ,,	41,298   ,,	1,919   ,,	44   ,,
1915.....	55,219   ,,	185,551   ,,	5,644   ,,	233   ,,
1916.....	63,900   ,,	126,110   ,,	2,765   ,,	15   ,,
1917.....	39,466   ,,	13,212   ,,	12,460   ,,	946   ,,
1918.....	27,216   ,,	51,755   ,,	24   ,,	—
1919.....	103,613   ,,	61,844   ,,	76,814   ,,	19   ,,
1920.....	207,412   ,,	358,744   ,,	261   ,,	722   ,,
1921.....	31,695   ,,	32,989   ,,	3,699   ,,	100   ,,
1922.....	80,794   ,,	26,991   ,,	5,129   ,,	15   ,,
1923.....	20,309   ,,	11,401   ,,	962   ,,	23   ,,
1924.....	13,468   ,,	14,574   ,,	4,998   ,,	13   ,,
1925.....	40,160   ,,	10,129   ,,	1,883   ,,	541   ,,



TABLE 20.

SHOWING THE QUANTITY AND DESCRIPTION OF OFFAL CONDEMNED  
DURING THE YEAR 1925.

Name of Organ.	Beef.		Mutton.		Pork.		Veal.	
	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.
Livers...	16,385	134,793	4	6	406	1,559	153	507
Tongues	845	3,816	953	231	—	—	12	5
Hearts	821	2,743	4,214	1,620	—	—	—	—
Skirts...	2,958	11,350	—	—	—	—	—	—
Cheeks	1,207	2,963	—	—	—	—	—	—
Kidneys	12,265	9,902	1,402	157	208	65	376	116
Udders	247	1,392	—	—	—	—	—	—
Tripe	593	3,030	—	—	419	936	—	—
Tails	2,951	5,225	—	—	—	—	—	—
Feet	180	567	972	365	226	104	—	—
Plucks	—	—	—	—	350	2,217	—	—
Heads	35	336	—	—	256	2,482	—	—
Lungs...	—	—	—	—	18	13	—	—
Brains and Sweetbreads	—	—	2,584	541	—	—	—	—
Intestines	1,573	811	—	—	—	—	—	—
Totals	40,160	176,934	10,129	2,920	1,883	7,276	541	628

TABLE 21.

TABLE SHOWING THE QUANTITY AND DESCRIPTION OF UNSOUND MEATS  
SUPERVISED\* DURING THE YEAR 1925.

DESCRIPTION.	TOTAL WEIGHT.		CAUSE OF DESTRUCTION.					
			Tubercular.		Brine Stained, Mouldy and Decomposed.		Other causes. (Emaciation, Dropsy, etc.)	
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.
Beef .....	1,184	15	1	5	—	—	—	—
Mutton.....	7	10	1	1	—	—	—	—
Pork .....	0	4	1	15	—	—	—	—
Veal .....	0	5	3	0	—	—	—	—
Total.....	1,192	15	2	21	—	—	—	—
	1,192	9	3	16	0	5	3	5

\* These were destroyed or allowed to go for industrial purposes to the satisfaction of the Medical Officer.

TABLE 22.

SHOWING QUANTITIES OF UNSOUND GENERAL FOOD-STUFFS SUPERVISED AND UTILISED DURING THE YEAR 1925.

Description.	No. of Tins.	Weight in Pounds.	Description.	No. of Tins.	Weight in Pounds.
<b>Canned Goods—</b>			Condensed Milk.	1198	1871
Apples ...	354	2423	Egg Melange .	303	13332
Apricots ...	4219	4164	Beef ... ..	10476	42999
Apricot Pulp ...	554	7832	Mutton ...	128	768
Asparagus ...	2	5	Tongues ...	890	4818
Black Currant Pulp	47	640	Ox Tails ...	3192	6384
Cherries ...	897	1106	Rabbits ...	8	16
Fruit Salad ...	5786	8418	Lobster ...	1841	1083
Loganberries ...	1143	1954	Sardines ...	3821	988
Peaches ...	1725	2512	Crab ... ..	429	136
Pears ... ..	1834	2943	Pilchards ...	1582	814
Peas ... ..	4	6	Salmon ...	6517	3560
Pines ... ..	27802	41430			
Raspberry Pulp	16	160			
Strawberries ...	139	278			
Tomatoes ...	69078	166747			

Description.				Packages.	Weight.			
<b>Fruit (Fresh)—</b>					Tons.	Cwts.	Qrs.	Lbs
Apples ... ..	...	...	...	225	10	16	0	8
Bananas...	...	...	...	4259	228	6	2	2
,, loose ... ..	...	...	...	—	5	0	0	0
Oranges ... ..	...	...	...	1802	70	1	1	22
,, loose ... ..	..	...	...	—	298	8	2	8
Mandarines ...	...	...	...	179	1	6	2	14
Naartjes ... ..	...	...	...	457	19	2	3	2



TABLE 22—*continued.*

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
Fruit (Fresh) <i>continued</i> —					
Pears ... ..	896	33	19	2	24
Grape Fruit ... ..	513	20	17	1	8
Lemons ... ..	616	17	18	1	12
Plums ... ..	90	1	19	2	20
Peaches ... ..	51	0	3	2	14
Grapes ... ..	811	14	18	0	14
,, loose ... ..	1	0	0	0	0
Melons ... ..	172	11	4	2	26
,, loose ... ..	0	26	15	0	0
Tomatoes ... ..	28	0	15	1	24
,, loose ... ..	0	0	6	2	22
Currants, ... ..	51	1	16	1	2
,, loose ... ..	0	0	7	3	21
Apricots... ..	39	1	6	0	13
Walnuts ... ..	0	0	0	0	0
Chestnuts ... ..	1	0	0	0	14
,, loose ... ..	0	0	0	0	0
Onions ... ..	541	29	6	2	12
Potatoes... ..	796	36	2	3	23
,, loose ... ..	0	2	15	0	0
Turnips ... ..	127	6	7	0	0

TABLE 22--continued.

Description.					Packages.	Weight.			
						Tons.	Cwts.	Qrs.	Lbs.
<b>Fruit (Fresh) continued—</b>									
Brazil Nuts	...	...	...	...	—	0	0	0	0
„	loose	...	...	...	—	4	15	2	13
Prunes	...	...	...	...	10	0	0	1	12
<b>Cereals—</b>									
Wheat	...	...	...	...	—	2805	11	0	2
Maize	...	...	...	...	—	3220	6	2	10
Maize Meal	...	...	...	...	33	2	1	1	0
Rice	...	...	...	...	38	2	1	0	2
„	loose	...	...	...	—	1	17	2	8
Peas	...	...	...	...	12	0	9	2	0
„	loose	...	...	...	—	0	0	3	16
Flour	...	...	...	...	177	18	12	2	8
„	loose	...	...	...	—	3	11	2	5
Barley	...	...	...	...	—	0	0	0	0
„	loose	...	...	...	—	1	17	3	4
Oats	...	...	...	...	—	0	0	0	0
„	loose	...	...	...	—	1	8	2	8
Rolled Oats	loose	...	...	...	—	0	4	2	12
Oat Meal	„	...	...	...	—	0	1	3	24
<b>General—</b>									
Hams	...	...	...	...	—	0	0	0	0
Bacon	...	...	...	...	5	0	14	1	7
„	loose	...	...	...	—	0	6	0	20

TABLE 22—*continued.*

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>General—continued.</b>					
Margarine ... ..	40	0	5	2	0
Lard Compound ... ..	124	1	11	2	0
Fig Puddings ... ..	5	0	1	0	0
Shredded Wheat ... ..	36	0	0	0	27
Fish ... ..	100	4	9	1	4
Tea ... ..	0	0	0	1	5
Cocoa Beans ... ..	27	1	13	2	18
Des. Cocoanut ... ..	5	0	5	3	6
Confectionery (Sweets) ...	0	0	0	0	14

TABLE 23.

SHOWING THE TOTAL QUANTITIES OF THE DIFFERENT  
UN SOUND FOODSTUFFS SUPERVISED DURING THE  
YEAR 1925.

	Tons.	Cwts.	Qrs.	Lbs.
Beef Mutton, Pork and Veal...	1,192	15	2	21
Offal (Beef, Mutton, etc.) ...	83	16	1	18
Canned Goods... ..	141	13	3	7
Fruit and Vegetables ... ..	845	18	2	22
Cereals ... ..	6,058	5	3	15
General (Fish, Poultry, Rabbits, etc.) ... ..	9	7	3	15
	8,331	18	1	14



TABLE 24.

Showing comparative Value of the more important Food Stuffs imported at the principal Ports during the year 1924.

	London. 1	Liverpool. 2	Hull. 3	Harwich. 4	Bristol. 5	Glasgow. 6	Newcastle. 7	Man- chester. 8	Leith. 9	South- ampton. 10
	£	£	£	£	£	£	£	£	£	£
Animals .....	10,130	6,793,656	25,889	—	707,515	2,020,543	—	810,824	—	—
Butter .....	21,938,631	1,737,371	3,365,290	2,284,287	321,235	729,282	4,087,722	201,099	4,001,543	1,668,312
Cheese .....	9,379,600	1,209,970	216,892	162,091	595,984	342,709	204,040	362,850	231,166	88,413
Cocoa .....	1,221,509	1,275,573	18,980	221,575	1,448	7,495	2,487	—	49,645	5,059
Coffee .....	2,815,149	37,907	—	—	439,681	—	374	—	—	38,390
Grain.....	31,033,600	21,676,433	15,887,850	57,359	10,820,638	7,282,731	2,732,506	7,781,519	4,540,014	1,120,941
Eggs .....	6,968,060	2,262,382	993,620	1,336,516	1,165	1,161,702	808,923	228,492	1,372,774	369,259
Fish .....	2,108,631	3,830,391	498,557	1,102,475	69,554	91,887	464,653	21,080	97,183	316,953
Fruit .....	15,634,612	10,930,474	2,810,642	543,273	2,822,819	2,572,554	466,335	1,364,358	249,216	2,416,983
Lard .....	1,959,524	3,500,997	428,659	18,615	429,807	264,577	632,438	963,123	74,985	137,932
Margarine .....	1,373,569	563,378	1,072,378	744,937	—	251,007	557,684	350,121	603,956	—
MEAT:—										
Bacon .....	5,132,572	7,080,117	2,140,704	11,612,118	387,860	266,392	3,598,645	134,989	306,716	1,250,886
Beef .....	21,348,061	7,771,561	333,987	—	60,718	520,311	235,015	88,395	—	1,065,703
Hams .....	972,441	4,547,822	—	—	209,633	1,371,978	—	158,903	—	109,064
Mutton .....	15,008,597	3,337,957	157,717	290,571	212,157	114,801	—	207,945	—	147,126
Pork .....	604,948	555,610	—	172,517	—	—	—	—	—	—
Rabbits .....	323,048	33,092	—	—	—	—	—	4,255	—	—
Unenumerated.....	570,060	403,506	306,263	433,745	44,977	354,197	210,620	—	222,223	83,601
Preserved .....										
Milk, Condensed .....	2,852,962	740,295	787,925	744	152,951	34,282	512,954	392,379	218,257	21,179
Poultry and Game .....	643,573	160,039	5,856	81,907	—	—	—	—	—	207,821
Sugar.....	21,028,478	14,640,958	1,534,145	—	1,687,313	1,129,862	898,609	1,198,309	1,206,013	230,384
Vegetables .....	3,186,114	1,834,270	1,366,317	334,358	174,570	215,467	254,303	232,558	293,054	2,365,750

## E M I G R A T I O N .

There was a marked decrease in the number of emigrants leaving the Port of Liverpool during the year 1925, the number being 111,918, a decrease compared with the previous year, when the number of emigrants leaving the Port was 122,201.

The following is a return of the number of emigrants and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1901-1925 :—

TABLE 25.

In 1901, 167,452 Emigrants, and 761 Clearances of Ships.		
„ 1902, 214,113	„ 791	„
„ 1903, 265,918	„ 902	„
„ 1904, 274,584	„ 924	„
„ 1905, 277,536	„ 983	„
„ 1906, 352,818	„ 1,090	„
„ 1907, 385,797	„ 1,102	„
„ 1908, 212,155	„ 1,113	„
„ 1909, 253,400	„ 1,117	„
„ 1910, 336,088	„ 1,149	„
„ 1911, 312,027	„ 1,153	„
„ 1912, 323,187	„ 1,165	„
„ 1913, 347,541	„ 1,199	„
„ 1914, 232,954	„ 1,065	„
„ 1915, 75,387	„ 677	„
„ 1916, 58,749	„ 562	„
„ 1917, 18,908	„ 379	„
„ 1918, 13,588	„ 287	„
„ 1919, 120,187	„ 673	„
„ 1920, 204,868	„ 769	„
„ 1921, 161,132	„ 714	„
„ 1922, 120,691	„ 804	„
„ 1923, 159,874	„ 850	„
„ 1924, 122,201	„ 869	„
„ 1925, 111,918	„ 894	„

*The following Tables, Nos. 26 and 27, relating to Emigration have been kindly supplied by the Board of Trade.*

TABLE 26.

Statement showing the number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, who left the Port of Liverpool for places out of Europe in the year 1925 :—

DESTINATION.	British Subjects.	Aliens.	Total.
British North America ...	34,486	12,119	46,605
Australia and New Zealand ... ..	4,001	51	4,052
British South Africa ...	1,705	41	1,746
India (including Ceylon)...	5,879	256	6,135
Other British Colonies and Possessions ...	6,565	385	6,950
Total British Empire ...	52,636	12,852	65,488
United States ... ..	21,007	16,456	37,463
Other Foreign Countries	8,013	954	8,967
Total Foreign Countries...	29,020	17,410	46,430
Grand Total ...	81,656	30,262	111,918



TABLE 27.

Number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, as given in Table No. 25, who left the Port of Liverpool in each month of the year 1925 :—

MONTH.	British Subjects.	Aliens.	Total.
January ... ..	5,848	1,244	7,092
February ... ..	4,957	1,185	6,142
March ... ..	6,451	1,580	8,031
April ... ..	7,417	1,680	9,097
May ... ..	8,427	2,037	10,464
June ... ..	5,270	1,629	6,899
July ... ..	6,826	2,744	9,570
August ... ..	9,077	7,843	16,920
September ... ..	9,912	4,566	14,478
October ... ..	10,366	3,287	13,653
November ... ..	4,288	1,135	5,423
December ... ..	2,817	1,332	4,149
Total ... ..	81,656	30,272	111,918

### Emigrant Inspections.

All emigrants travelling second class or steerage on board vessels outward bound are subject to inspection by the Medical Officers of the Board of Trade. The crews of all such vessels bound for America are also subjected to inspection by these officers. An Inspector of the Port Sanitary Authority attends these clearances in order to supervise the removal of any persons who may be rejected on account of actual or suspected infectious disease.

There were 231 such inspections, and 23 persons were rejected on account of infectious disease.

TABLE 28.

Date 1925.	Name of Vessel.	Nature of Sickness.	Where taken to	Description of Patient.
Jan. 16	Montcalm ...	Lupus of Face ...	Returned Home ...	Adult
" 31	" Caronia ...	Measles ...	Grafton Street Hospital	Infant
		Ringworm ...	Returned Home	Adult
Feb. 12	Suffolk ...	Scabies ...	Returned Home ...	Adult
" 21	Baltic ...	Scabies ...	Returned Home ...	Adult
Apr. 18	Megantic ...	Measles ...	Fazakerley Hospital ...	Child
May 1	Lancastria ...	Ringworm ...	Returned Home ...	Child
" 1	Montrose ...	Whooping Cough	C.P.R. Boarding House...	Infant
" 1	Montrose ...	Mumps ...	Belmont Rd. Institution	Child
" 15	Aurania ...	Scarlet Fever ...	Netherfield Rd. Hospital	Child
" 29	Montrose ...	Measles ...	Grafton Street Hospital	Child
June 13	Montcalm ...	Measles ...	Fazakerley Hospital ...	Child
July 4	Adriatic ...	Gonorrhoea ...	Returned Home ...	Adult
Aug. 28	Doric ...	German Measles ...	Fazakerley Hospital ...	Child
Sept. 5	Cedric ...	Scabies ...	Boarding House, Duke Street	Children (3)
Oct. 16	Canada ...	Scabies ...	Returned Home ...	Children (2)
" 23	Montrose ...	Smallpox ...	Port Sanitary Hospital ...	Adult
" 24	Athenia ...	Measles ...	Grafton Street Hospital	Children (2)
Nov. 13	Canada ...	Scarlet Fever ? ...	Fazakerley Hospital ...	Adult

The numbers of Transmigrants notified from other Port Sanitary Authorities, or discovered upon examination in Liverpool to be suffering from "Trachoma" or "Conjunctivitis," from January 1st to December 31st, 1925, were :—

Cases under treatment, 1/1/25	...	...	...	...	3
Cases notified from Hull	...	...	...	...	93
„ discovered in Liverpool	...	...	...	...	4
					<hr/>
					100
Number of above who sailed for U.S.A. and Canada	...				98
„ „ under treatment in Liverpool	...	...			2
					<hr/>
					100
					<hr/>

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The Medical Officer to the Port Sanitary Authority desires to express his appreciation of the valuable assistance received from H.M. Collector of Customs and staff, the Mersey Docks and Harbour Board and their Officers, and the various Shipping Companies who have co-operated with the Port Sanitary Authority in the maintenance of Public Health and the prevention of disease in the port, and have worked harmoniously with the officers of the Authority in every particular. The Consular Bodies have at all times given courteous assistance.

A. A. MUSSEN, M.D.,  
*Medical Officer of Health.*

MUNICIPAL OFFICES,  
 LIVERPOOL,

1st July, 1926.



